PREMIER ENVIRONMENTAL, LLC
DISPOSAL WELL

AI 50593, Activity No. LIC20050001

APPLICATION DEEMED COMPLETE

PUBLIC NOTICE
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY (LDEQ)
PREMIER ENVIRONMENTAL, LLC / DISPOSAL WELL

PUBLIC HEARING (FACT FINDING HEARING)
AND REQUEST FOR PUBLIC COMMENT

ON AN APPLICATION FOR RADIOACTIVE MATERIAL LICENCE
DEEMED COMPLETE
AND THE ENVIRONMENTAL ASSESSMENT STATEMENT (EAS)

The LDEQ, Office of Environmental Compliance, Emergency and Radiological Services Division (ERSD) is scheduling a public hearing to receive comments on a new radioactive material license application deemed complete and the EAS for Premier Environmental, LLC, 628 Village Lane South, Mandeville, Louisiana 70471 for the proposed Disposal Well. **The proposed site is to be at 20487 Hwy 15, in Section 1 T17S, R15E, at the end of State Hwy 39 in Bohemia, Plaquemines Parish.**

Due to the situation in southern part of Plaquemines Parish after the hurricanes and to assure a better opportunity for the public to attend the public hearing, LDEQ will hold the public hearing twice to receive comments regarding the proposed well and the environmental assessment statement for Premier Environmental, LLC.

Each hearing will begin at 6:00 p.m., on the following dates at the specified locations:

Tuesday, March 21, 2006, Belle Chasse, Plaquemines Parish
Belle Chasse High School Theater, 8346 Highway 23 Belle Chasse, LA 70037

Monday, March 27, 2006, in Baton Rouge
LDEQ, 602 North 5th Street, Galvez Building, Natchez Room, Baton Rouge, LA.

Free parking will be available at the Galvez Garage facing the Galvez building on North Street. Garage tickets for the hearing attendees will be validated by DEQ for the free parking.

During the hearing, all interested persons will have an opportunity to comment on the deemed complete radiation license application and the associated environmental assessment statement.

Premier Environmental, LLC submitted an application for a new Disposal facility for commercial Exploration and Production (E&P) waste containing regulated levels of Naturally Occurring Radioactive Material (NORM). The facility will use the deep well injection disposal method for the processed NORM material from gas drilling productions and related activities. The main radioisotopes are Radium-226 (^{226}Ra), Radium-228 (^{228}Ra) and the associated daughter product and Lead-210 (^{210}Pb).

The application provides a detailed plan as required by LDEQ, ERSD for the operation, personnel training and safety, and emergency contingencies for preparation and deep well injection of NORM Waste. The facility will consist of an off loading area and three restricted areas, a NORM Waste Storage area, a NORM Waste Preparation Area and a NORM Waste Injection Area.

The quantities of NORM material in slurry form to be injected into the well are estimated to be between 1800 and 2000 barrels per day as noted in their DNR permit application.

The EAS submitted by the applicant addresses avoidance of potential and real environmental effects, balancing of social and economic benefits against environmental impact costs, and alternative sites, projects, and mitigate measures.

Written comments or written requests for notification of the final permit decision regarding this permit may also be submitted to Ms. Soumaya Ghosn at LDEQ, Public Participation Group, P.O. Box 4313, Baton Rouge, LA 70821-4313. **Written comments and/or written requests for notification must be received by 12:30 p.m., Thursday, March 30, 2006.** Written comments will be considered prior to a final permit decision.

LDEQ will send notification of the final permit decision to the applicant and to each person who has submitted written comments or a written request for notification of the final decision.

The application, Norm Worker Protection and Waste Management Plan, "IT question" also known as environmental assessment statement and other material associated with the application are available for review at the LDEQ, Public Records Center, Room 127, 602 North 5th Street, Baton Rouge, LA. Viewing hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday (except holidays). An additional copy may be reviewed at Additional copies may be reviewed at the Plaquemines Parish Library, Belle Chase Branch, 8442 Highway 23, Belle Chase, LA 70037 and the New Orleans Public Library, Headquarters, 219 Loyola Avenue, New Orleans, Louisiana 70112 . **Also the information can be viewed on the LDEQ Permits Public Notice Web Page at the web address below.**

Individuals with a disability, who need an accommodation in order to participate in the public hearing, should contact Mr. Brian Smith at the above address or by phone at (225) 219-3279.

Inquiries or requests for additional information regarding this permit action should be directed to Ms. Ann Troxler, LDEQ, Emergency and Radiological Services Division, P.O. Box 4312, Baton Rouge, LA 70821-4312, phone (225) 219-3035.

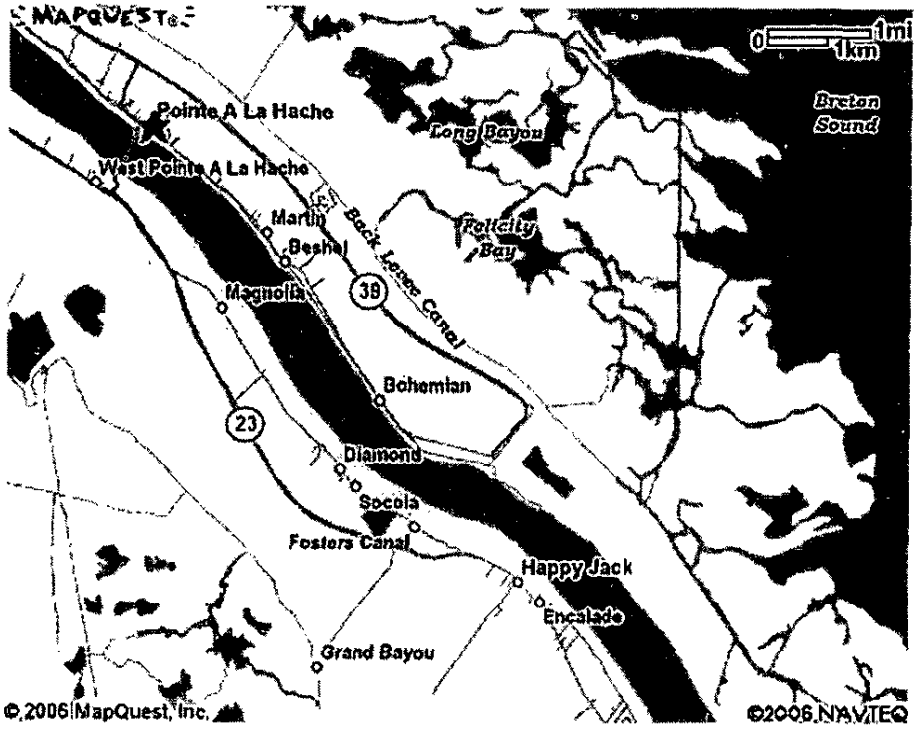
Persons wishing to be included on the LDEQ permit public notice mailing list should contact Ms.Soumaya Ghosn in writing at LDEQ, P.O. Box 4313, Baton Rouge, LA 70821-4313, phone (225) 219-3276, or by email at maillistrequest@ldeq.org.

Permit public notices can be viewed on the LDEQ Permits public Web page at WWW.deq.state.la.us/news/PubNotice/.

Alternatively, individuals may elect to receive the permit public notices via email by subscribing to the LDEQ permits public notice List Server at http://www.state.la.us/ldbc/listservpage/ldeq_pn_listserv.htm.

All correspondence should specify AI Number 50593, and Activity Number LIC20050001.

Publication Dates: February 10, 2006 and February 17, 2006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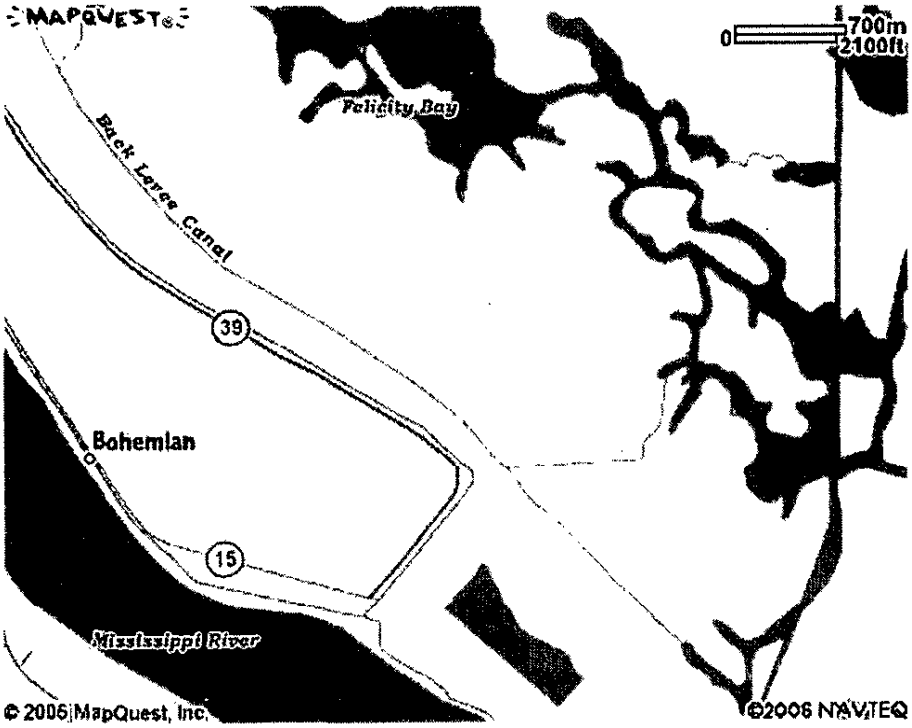
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Bohemian
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Federal Tax ID
72-1318763

APPLICATION FOR RADIOACTIVE MATERIAL LICENSE
DRC 11 (Rev. 7/03)

Department of Environmental
Registrations and Certifications Section
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313
Phone: (225) 219-3041 Fax: (225) 219-3154

OFFICE USE ONLY	
License #	
AI #	
Amendment #	
Date Issued	
Date Received	

1. NAME OF APPLICANT: Premier Environmental, LLC

2. ☒ New License Application ☐ Renewal ☐ Amendment Request
LICENSE NUMBER: LA-10141-801

MAILING ADDRESS: 629 Village Lane South, Mandeville, Louisiana 70471 ZIP CODE:

3. DEPARTMENT, LOCATION OR ADDRESSES AT WHICH USED AND/OR STORED
☐ Check if same as Item 1 only
Disposal Well
Section 1, T17S, R15E
20487 Hwy 15
Bohemia, LA. 70082

AREA CODE 985 TELEPHONE NO. 626-8758

☐ Temporary Job Sites in LA ☐ Offshore
☐ Out of State (List States)

AREA CODE 985 FAX NO. 626-8767

EMAIL: shaller@flashgasandoil.com

4. RADIATION PROGRAM PERSONNEL	TITLE OR FUNCTION	RESUME ATTACHMENT	RESUME PAGE OR ITEM
PERSON RESPONSIBLE FOR RADIATION PROTECTION (RSO): Jim Burton		4.0	
INDIVIDUAL(S) OR COMMITTEE RESPONSIBLE FOR USE: Fred Litchliter	☐ Committee Chairman		
COMMITTEE TITLE	NO. OF ADDITIONAL COMMITTEE MEMBERS OR INDIVIDUALS		

5. PERSONNEL MONITORING			NOT APP.	ATTACHMENT	PAGE OR ITEM
a. Personnel Dosimetry	Name of Supplier: Exchange Period: Where Worn:	RADIATION DETECTED ☐ Alpha ☒ Beta ☒ Gamma ☐ Neutron ☐ X-Ray ☐ Radon		X	2.4
b. Pocket Chamber or Dosimeter	Manufacturer: Model: Max. Range: ☐ Direct Reading	RADIATION DETECTED ☐ Alpha ☐ Beta ☐ Gamma ☐ Neutron ☐ X-Ray ☐ Radon	X		
c. Bio-Assay	Laboratory: Type of Sample: Frequency of Samples: Radiation or Radioactive Material Assayed			X	2.10
d. Other	Describe				

6. AREA MONITORING			
a. Contamination Surveys: Routine Frequency--		X	2.5
b. Radiation Area Surveys: Routine Frequency--		X	2.5
Environmental Surveys: ☐ Air ☐ Water Where-- Freq.		X	2.5

7. LEAK TESTS			
Company: ☐ Evaluated by Applicant (Attach Procedure)	X		
Kit Model No.: Frequency:	X		

8. WASTE DISPOSAL			
Company:			
Maximum Total Activity: Maximum Storage period:			
☐ Incineration ☐ Storage ☐ Burial ☐ Sewer System ☐ Ship to Licensed Recipient			

9. ATTACHMENTS			
a. Health Physics Program		X	2.0
b. Physical Facilities		X	6.0

10. HEALTH PHYSICS INSTRUMENTATION							NOT APPLICABLE	ATTACHMENT #	PAGE OR ITEM #
								2.10.X	2.10.5

MANUFACTURER	MODEL	QUANTITY	RADIATION DETECTED	DOSE OR COUNT RANGE	ENERGY RANGE	TYPE, USE, OR PURPOSE	CALIBRATION	
							COMPANY OR PROCEDURE	FREQUENCY

11. GENERAL INSTRUMENTATION				NOT APPLICABLE	ATTACHMENT #	PAGE OR ITEM #
					2.10.X	2.10.5

MANUFACTURER	MODEL	QUANTITY	RADIATION DETECTED	TYPE, USE, OR PURPOSE

12. MEDICAL SUPPLEMENTS	NOT APPLICABLE	ATTACHMENT #	PAGE OR ITEM #
a. INSTRUCTIONS FOR CARE OF PATIENTS CONTAINING RADIOACTIVE MATERIALS	X		
b. HOSPITALS WHERE RADIOACTIVE MATERIALS ARE USED (INDIVIDUALS ATTACH APPROVAL)	X		
c. HOSPITALS WHICH ADMIT MY PATIENTS CONTAINING RADIOACTIVE MATERIALS (ATTACH APPROVAL)	X		
d. PRECEPTOR STATEMENTS	X		

13. INDUSTRIAL RADIOGRAPHY SUPPLEMENTS			
a. Training Program for Industrial Radiography Personnel; Periodic Retraining	X		
b. Internal Management Review Procedures and Controls	X		
c. Organizational Structure	X		
d. Applicant is: ☐ Individual ☐ Partnership ☐ Corporation ☒ Other			
e. Applicant is Controlled Directly or Indirectly by the Following Corporation or Legal Entity (Name & Address)			
f. Applicant is Incorporated Under the Laws of: Louisiana			

g. OFFICERS, PARTNERS OR STOCKHOLDERS	ADDRESS	NUMBER OF SHARES OR PERCENTAGE IF OVER 10%
Steven G. Haller	629 Village Lane Mandeville, LA. 70471	100%

14. ADDENDUM TO PERMIT APPLICATIONS PER LAC 33:XV.701			
15. ENTER NAME & COMPANY AFFILIATION OF ANYONE OTHER THAN AN EMPLOYEE OF THE APPLICANT GIVEN IN ITEM 1 WHO ASSISTED IN THE PREPARATION OF THE APPLICATION	Name:		
	Company:		

The applicant and any official executing this certificate on behalf of the applicant named in Item 1 certify that this application is prepared in conformity with the Louisiana Radiation Regulations and that all information confirmed herein, including any supplements attached thereto, is true and correct to the best of our knowledge or belief.

DATE	APPLICANT	TITLE
6/10/05	Steven G. Haller	President

All applications must be signed and dated.

Submit the original to Louisiana Department of Environmental Quality, Registrations and Certifications Section-Radiation.

RADIOLOGICAL QUALIFICATIONS AND TRAINING

INDIVIDUAL RESPONSIBLE FOR RADIATION PROTECTION: INDIVIDUALS OR COMMITTEE MEMBER RESPONSIBLE FOR USE	FORMAL RADIATION TRAINING		RADIOISOTOPE EXPERIENCE
	TITLE OR DESCRIPTION & LOCATION	DATES	
Name: Jim M. Burton ! Previously Submitted: Date Attachment: Page or Item School, College, or University: Degree/Year	U.S.L. - Level 5 L.S.U. - RSO A.R.S. - RSO-update R.T.S. - S.R.Class Dr. M. Scott - SR		Source Environmental Services. Inc. Praxis Pits and P&A Brammer Engineering Tenneco Exxon Company U.S.A. U.S. Army
Name ! Previously Submitted: Date Attachment: Page or Item School, College, or University: Degree/Year			
Name ! Previously Submitted: Date Attachment: Page or Item School, College, or University: Degree/Year			
Name ! Previously Submitted: Date Attachment: Page or Item School, College, or University: Degree/Year			

DRC 13 (Rev. 5/01)

SCHEDULE OF RADIOACTIVE MATERIALS

RADIOISOTOPE Element	RADIOISOTOPE Mass No.	MAXIMUM POSSESSION ACTIVITY	CHEMICAL FORM	PHYSICAL STATE	USE	Attachment if Applicable
^{226}Ra ^{228}Ra and associated daughter products		Total to be processed	Any Chemical and physical form radioactive material from oil and/or gas drilling, production, and related activities		Deep Well injection	
Lead 210						

SEALED SOURCES

RADIOISOTOPE Element	RADIOISOTOPE Mass No.	NUMBER OF SOURCES	MAX. ACTIVITY PER SOURCE	SOURCE Manufacturer	SOURCE Model	DEVICE OR STORAGE CONTAINER Manufacturer	DEVICE OR STORAGE CONTAINER Model	USE	Attachment if Applicable

URANIUM—THORIUM—PLUTONIUM

ELEMENT	NATURAL, DEPLETED, OR ENRICHED	MAXIMUM POSS. Grams	MAXIMUM POSS. Pounds	ISOTOPIC ABUND. Isotope	ISOTOPIC ABUND. Percent	CHEMICAL FORM	PHYSICAL STATE	SEALED SOURCE	USE OR PROCESS	Attachment if Applicable

Media Type (check one)
Hazardous Waste ____ Air ____
Solid Waste ____ Water ____
Radiation Licensing X

Agency Interest Number: 50593

Department of Environmental Quality
Permits Division
P.O. Box 82135
Baton Rouge, LA 70884-2135
(225) 765-0219

Addendum to Permit Applications per LAC 33:I.1701

Please Type Or Print		For Permits Division Use Only
	Company Name Premier Environmental, LLC	
	Parent Company (if Company Name given above is a division)	
	Plant name (if any) Bohemia Facility	
	Nearest town: Bohemia Parish where located: Plaquemines	

Use attachments to provide the required information. "NA" is not an acceptable answer. If a particular section does not apply to you, explain why.

1. Please provide a list of the states where you, as applicant*, have federal or state environmental permits identical to, or of a similar nature to, the permit for which you are applying.

   Louisiana and Texas

   *This requirement applies to all individuals, partnerships, corporations, or other entities who own a controlling interest of 50% or more in your company, or who participate in the environmental management of the facility for an entity applying for the permit or an ownership interest in the permit.

2. Do you owe any outstanding fees or final penalties to the Department? No X Yes_____ If yes, please explain.

3. Is your company a corporation or limited liability company? No_____ Yes X If yes, attach a copy of your company's Certificate of Registration and/or Certificate of Good Standing from the Secretary of State.

Certification:

I certify, under provisions in Louisiana and United States law which provide criminal penalties for false statements, that based on information and belief formed after reasonable inquiry, the statements and information contained in this Addendum to the Permit Application, including all attachments thereto are true, accurate, and complete.

Responsible Official

Name: Mr. Steve Haller	City: Mandeville	State: LA / Zip: 70471
Title: President	Business phone: 985-626-8758	
Company: Premier Environmental, LLC	Signature of [redacted]	
Suite, mail drop, or division	Date: 2-22-05	
Street or P.O. Box: 629 Village Lane South		

November 27, 2000

UNITED STATES OF AMERICA

State of Louisiana

Fox McKeithen

SECRETARY OF STATE

As Secretary of State, of the State of Louisiana, I do hereby Certify that
PREMIER ENVIRONMENTAL, LLC

A LOUISIANA limited liability company domiciled at MANDEVILLE,

Filed charter and qualified to do business in this State on January 25, 1996,

I further certify that the records of this Office indicate the company has paid all fees due the Secretary of State, and so far as the Office of the Secretary of State is concerned, is in good standing and is authorized to do business in this State.

I further certify that this certificate is not intended to reflect the financial condition of this company since this information is not available from the records of this Office.

In testimony whereof, I have hereunto set my hand and caused the Seal of my Office to be affixed at the City of Baton Rouge on,
May 12, 2005

Fox McKeithen

ABA 34516889K

Secretary of State

STATE OF LOUISIANA
UNION JUSTICE CONFIDENCE
SECRETARY OF STATE

CERTIFICATE SS 102 PRINTED SEAL (08/03)

Shinteaux Environmental Services, Inc.
19345 Point O Woods Court
Baton Rouge, Louisiana 70809
225-753-4723

June 10, 2005

Ms. Anne Troxler
Environmental Scientist Supervisor
Emergency and Radiological Services Division
Office of Environmental Services
Louisiana Department of Environmental Quality
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313

RECEIVED
LADEQ/PERMITS
REGS & CERTS
2005 JUN 14 PM 12:28

RE: Response Submitted in Support of Application for N.O.R.M. License to Operate
Commercial SFI Facility
Premier Environmental, LLC

Dear Ms. Troxler,

Pursuant to your letter dated January 27, 2005, attached are the following;

- Copy of Louisiana Department of Natural Resources – Office of Conservation – Injection and Mining Division permit to construct and operate by Conservation Order No. IMD 2005-01 CFA.

- An updated application.

- General Deficiencies

1. Premier Environmental, LLC (Premier) has not been contacted by the Louisiana Department of Environmental Quality (Department) regarding the amount required for the license application fee.
2. Premier has not been contacted by the Department regarding the financial assurance amount. Premier has proposed that the Department be named on the letter of credit filed with the Louisiana Department of Natural Resources (LDNR). The letter of credit filed with the LDNR for this facility includes the complete closure of the facility and plugging of the injection well, including all issues regarding the disposal of NORM related wastes.
3. Attached is an original and signed Addendum to Permit Application form, including certification from the Louisiana Secretary of State.
4. Attached is a signed and original ALARA program, including assurance from Premier that the program will be reviewed at least annually.
5. Premier requests that the Department provide Premier a copy of the hearing notice and schedule the hearing at the earliest possible date.
6. Attached are signed and original forms DRC-11 and DRC-13.

- Premier Operational and Emergency Procedures Deficiencies

    1. Items 2.4.4 and 2.6.1 have been amended to commit to the requirements outlined in 33:XV.442.
    2. Your letter dated, January 27, 2005, illustrates a request to amend Item 3.1.1, regarding waste transportation by barge or truck. The subject document does not have an Item 3.1.1, however Section 3.0.1 discusses the transportation and off-loading of NORM. Item 3.0.1 has been amended to address the offloading of barges containing containerized NORM and loose NORM.

- Premier NORM Worker Protection and Waste Management Plan Deficiencies

    1. Item 2.6.2 was revised to reference the current exemption limits.
    2. Item 2.6.3 was revised to reference the action level for waste emitting radiation.
    3. Items 2.7, 2.7.2, 7.1, 9.2, 14.1 and 14.2 was changed to reflect the revised labeling citation.
    4. Item 3.3 was changed to reflect the revised exemption limits.
    5. Referenced to regulations promulgated in 1992 were revised to the most current regulation throughout the application.
    6. Items 6.3 and Item 2 was revised to reflect the frequency of the collection of air samples.
    7. Items 6.3 and Item 4 was revised to illustrate the action level for radon and correction action should the level be exceeded.
    8. Section 8 was revised to illustrate current DOT regulations and that Premier will not be transporting any NORM waste.
    9. Item 8.3.1, Page 32 was revised to illustrate the current address, division, and section name for LDEQ.
    10. Item 9.1, Page 35 was revised to illustrate the current address, division, and section name for LDEQ.
    11. Radioactive material will be disposed of by deep well injection. The "site" (actually the "preparation" area) mentioned in Sec. 2.5.1.1 refers to the "preparation" area at the site of the injection well – not "off site" or other remote areas.
    12. Jim M. Burton is the proposed Radiation Safety Officer and his qualification are contained within the application.
    13. The facilities proposed tank inspection program has been included in this application.
    14. The other permits required or obtained for the proposed facility are as follows: LDNR – OOC – UIC order (permit), LDEQ air permit, LDNR – CMD NDSI, USCOE for the barge loading facility, LPDES permit for the barge facility.
    15. IT Questions were revised to further illustrate why other NORM disposal alternatives do not provide more protection to the environment.
    16. IT Questions were revised to further illustrate the other sites considered for the proposed facility, their location, and Premiers selection process.

Also attached to this submittal is a copy of the DNR permit.

Should you have any question or need any additional information or data please call me at 225-753-4723 or email at ersses@cox.net. With the exception of the public hearing, a resolution on the amount of the license application fee, and financial security, all outstanding issues raised by the Emergency and Radiological Services Division is contained herein.

Respectfully Submitted

John Connolly
Agent for Premier Environmental, LLC

Attachments

Louisiana Secretary of State
Selected Notary Detailed Data

NOTE: FOR INFORMATION REGARDING STATUS OR FOR INSTRUCTIONS TO CHANGE ANY INCORRECT INFORMATION, CLICK HERE.

JEANNE HUTCHISON

28498 LAKE DR. S.

LACOMBE, LA 70445

Notary ID Number: 69434

Parish: ST TAMMANY

Notary Type: Non-Attorney

Status: Active

Phone: 985-882-7731

Commission Date: 02/19/2004

Oath Date: 02/17/2004

Bond Expiration Date: 02/09/2009

NOTE: FOR INFORMATION REGARDING STATUS OR FOR INSTRUCTIONS TO CHANGE ANY INCORRECT INFORMATION, CLICK HERE.

New Search | Index

PREMIER ENVIRONMENAL, LLC

PREMIER ENVIRONMENTAL, LLC

RECEIVED
JAN 30 2006
EMERGENCY AND RADIOLOGICAL SERVICES DIVISION

January 26, 2006

FED X
FAX: 225-219-3154

Ms. Anne Troxler
Environmental Scientist Supervisor
Emergency and Radiological Service Division
Office of Environmental Services
Louisiana Department of Environmental Quality
P.O. Box 4313
Baton Rouge, LA 70821-4313

Re: Letter Of Credit per October 25, 2005 DEQ Request

Dear Ms. Troxler:

Please find enclosed the Letter Of Credit you requested in your October 25, 2005 letter. The DEQ should have all of the information requested since our last meeting and subsequent correspondence.

Per my previous letter I want to note that the Department of Natural Resources requires that the construction be complete before April 18, 2006. Before Premier can begin the construction of the permitted well and facility we must obtain the Department of Environmental Quality N.O.R.M. License to operate the Commercial SFI Facility.

It is obvious that due to the complexity of the operations and the time required to drill the well and construct the facility, Premier must apply for an extension to the DNR. The DNR has requested that Premier do that in a timely fashion and include the reasons for the extension along with the additional time needed.

629 Village Lane South
Mandeville, LA 70471

Phone: 985-626-8758
Fax: 985-626-4810
Email: shaller@flashgasandoil.com

In order to give the DNR an expected time to complete the construction of the facility, Premier must first have an idea of DEQ's timeline on requirements and response times. Premier is requesting that the DEQ give us a time on when we could expect a response and some idea on the timing on any outstanding issues so we can incorporate that information in our extension request to the DNR.

Exact dates are not necessary and just the overall timing would be appreciated. I can then give the Department of Natural Resources some notice as soon as possible per their request.

Based on my understanding from our last meeting I believe one of the first things necessary is to schedule a Public Hearing. Do you now see any problem moving forward immediately with scheduling a public hearing per DEQ requirements?

Thank you for your help on this matter.

PREMIER ENVIRONMENTAL, LLC

[redacted]

Steven G. Haller
Managing Member

XC: Shinteaux Environmental Services, Inc.
Attn: Mr. John Connolly
19345 Point O Woods Court
Baton Rouge, LA 70809

Givens Environmental Consulting, LLC
Attn: Mr. Dale Givens
2125 Elwick Dr
Baton Rouge, LA 70816

STATE OF LOUISIANA

PARISH OF ST. TAMMANY

On this 26th day of January, 2006 before me appeared Scott B. Krieger, who being by me duly sworn, did say that he is the Vice President of Parish National Bank, a Louisiana company, and that the foregoing instrument, one Irrevocable Letter of Credit No. HWY 59-105 was signed on behalf of, and as duly authorized by, the company, and said appearer acknowledged that he executed said instrument as the free act and deed of the company.

IN WITNESS WHEREOF, I have hereunto set my official hand and seal on the date hereinabove.

[redacted]

Jeanne Hutchison, Notary Public
Notary No. 69434
My Commission Expires with Life

PREMIER ENVIRONMENAL, LLC

PREMIER ENVIRONMENTAL, LLC

January 31, 2006

Via: FedEx

Ms. Anne Troxler
Environmental Scientist Supervisor
Emergency and Radiological Service Division
Office of Environmental Services
Louisiana Department of Environmental Quality
P.O. Box 4313
Baton Rouge, LA 70821-4313

Re: Letter Of Credit per October 25, 2005 DEQ Request

Dear Ms. Troxler:

Enclosed you will find the Notary Page that should have been included with the Letter Of Credit that we transmitted on January 26, 2006.

Please accept our apologies for this oversight.

Respectfully,

[redacted]

Deborah Warden

RECEIVED
FEB 0 1 2006
EMERGENCY AND RADIOLOGICAL SERVICES DIVISION

Enclosure

629 Village Lane South
Mandeville, LA 70471

Phone: 985-626-8758
Fax: 985-626-4810
Email: shaller@flashgasandoil.com

Shinteaux Environmental Services, Inc.
19345 Point O Woods Court
Baton Rouge, Louisiana 70809
225-753-4723

June 1, 2005

Ms. Anne Troxler
Environmental Scientist Supervisor
Emergency and Radiological Services Division
Louisiana Department of Environmental Quality
P.O. Box 4314
Baton Rouge, Louisiana 70821

RE: "IT Questions" Response Submitted in Support of Application for N.O.R.M. License to Operate Commercial SFI Facility
Premier Environmental, LLC

Dear Ms. Troxler,

This response to the "IT Questions" is submitted in support of the pending Application for N.O.R.M. license of Premier Environmental, LLC. By way of the Application, Premier Environmental, LLC seeks authorization to construct an exploration and production waste slurry fracture injection well (Plaquemines, located in Section 1, Township 17S, Range 15E, Plaquemine Parish, Louisiana (hereinafter "the Facility").

Premier proposes to construct the S.G. Haller et al SFI No. 1 (hereinafter "SFI No. 1") at the Facility and to accept "Exploration and Production Waste containing Naturally Occurring Radioactive Material" in the form of produced waters (saltwater) and other waste associated with the production of oil and gas, including Naturally Occurring Radioactive Materials (NORM). The application, if granted, would authorize the disposal regulated waste as a Commercial Facility. The permitting of SFI No. 1 is intended to allow the well to be used as a disposal well, thereby ensuring the consistent availability of needed environmentally sound E&P Waste containing NORM and associated waste disposal capacity.

SITE BACKROUND

The Facility is currently undeveloped. The facility is proposed to be located on the west side of the Mississippi River, south of Point a La Hache, Louisiana. This area is classified as an upland area. There are various canals and the Mississippi River in the vicinity of the tract. The proposed facility will not be constructed within 500 feet of a residential or commercial structure.

RESPONSE TO THE "IT QUESTION"

In accordance with La. Const. Art. IX, Sect 1 (1974), Premier Environmental, LLC hereby submits to the Louisiana Department of Environmental Quality – Office of Environmental Services – Permits Division the following responses to the required "IT Questions". To the extent that additional information is required, Premier Environmental, LLC reserves the right to submit the same.

The proposed injection well and associated facility is required to comply with numerous applicable regulatory requirements in order to be permitted, operate, and close. These regulatory requirements include; the Office of Conservation rules and regulations governing E&P waste disposal facilities, the Louisiana Department of Environmental Quality - Water, Solid Waste, Air, and NORM regulations, LDOTD – Water Resource regulations, LDNR – Coastal Management regulations, U.S. Army Corps of Engineers requirements, and U.S. Coast Guard requirements. The above rules and regulations were promulgated for the express purpose of preventing pollution of water, land, and air, to protect human health and the environment, proper and effective land management, protection of freshwater sources, protection of Underground Sources of Drinking Water, to ensure proper closure of facilities, and to provide for financial responsibility for damages which may occur in the event of escape of waste materials.

I. Have the potential and real adverse environmental effects of the facility been avoided to the maximum extent possible?

Yes. The potential and real adverse environmental effects of the Facility have been avoided to the maximum extent possible. Identification of the real and potential adverse environmental effects of the Facility has been assessed by the applicant. Based on the proposed operations, these adverse impacts can be defined as potential contamination of the surface soils, ambient air, groundwater, surface water, and aesthetic impacts. As explained in greater detail below, the most significant of these relate to water and soils pollution.

The decision of the Louisiana Department of Environmental Quality (LDEQ) to license the facility will demonstrate compliance with all of the regulatory requirements intended to provide protection to human health, the environment and minimize real and potential adverse environmental effects. Compliance with regulatory requirements, to minimize real and potential adverse impacts to the maximum extent possible, and proposed operating practices will afford the greatest protection to public and environment.

The product proposed to be disposed of is classified Exploration and Production Waste, including produced water and solids that may contain regulated Naturally Occurring Radioactive Materials (NORM).

Groundwater pollution: Potential impacts to groundwater have been avoided to the maximum extent possible through the proposed construction of the facility and injection well. In order to minimize the potential adverse impacts to groundwater, the facility is proposed to be constructed in an area that is not identified to contain any known drinking water from groundwater. There are also no freshwater drinking wells in the area of review. The geologic information presented in the application illustrate that there is no faulting in the area of review that penetrates the confining zone, and the injection zones, confining zones, and containment zones are continuous throughout the area of review. The injection well will be constructed with state of science drilling, completion, and monitoring technology in order to assure protection of

the groundwater. The surface facilities will use steel tanks with concrete containment.

Surface Water Pollution: Real and potential adverse impacts have been minimized to the maximum extent possible. Premier Environmental, LLC has filed a "no discharge" affidavit indicating that there are no surface discharges related to the process. Contaminated rainfall and possible spills are a potential source for surface water pollution. The risk of spills, and the impact of spills if they occur, have been eliminated and/or minimized in the following manner. The use of surface equipment and storage tanks will be in a closed loop system, with adequate containment and secondary containment. The storage capacity on the tanks are such that they will meet and exceed all volume requirements with regard to potential waste receipts and rainfall events. The secondary containment, as evidenced in the SPCC plan is sufficient in the event of the catastrophic failure of a tank rupture or surface equipment failure.

Premier Environmental, LLC has a comprehensive Spill Response Plan which incorporates operational measures to help reduce the potential for a spill and provides for immediate response in the event of a spill. The plan outlines spill mitigation procedures in the event of failure of transfer equipment, tank overfill, piping rupture or leak, explosion/fires manifold failure, hose failure or other equipment failure. The plan identifies the responsibilities of the Premier Environmental, LLC spill response team, emergency notification procedures to ensure that the authorities are promptly informed of a spill and the equipment available to assist in the event of a spill. It also outlines the extensive training which Premier Environmental, LLC employees undergo as part of facility efforts to prevent, contain and control spills. A significant aspect of this plan is the United States Coast Guard's inspection activities intended to ensure that the plan is properly implemented. The Coast Guard typically conducts routine inspections to ensure that requirements of the spill response plan are achieved, and that the facility continues to provide environmentally safe storage capacity.

All of the foregoing measures combine to significantly eliminate and/or reduce, to the maximum extent possible, the risks of adverse impacts to surface water quality. Use of a new well, tanks, and infrastructure also significantly reduces the risks of equipment failure.

Soils Pollution: The proposed well and facility will be constructed of new materials in a "closed loop" system. All of the material received at the site will be stored in containers, and will not be placed on the native soils. The facility will be constructed with secondary containment in order to contain any incidental spills that may occur from an upset condition. During offloading, processing, and injection operations, the facility will be under supervision and control by personnel knowledgeable of the SPC plan and facility operations.

Aesthetic Impacts: Aesthetic impacts (noise, appearance) from the Facility have also been reduced to the maximum extent possible. The facility is proposed in a remote and isolated area where there are no residences, commercial facilities, or public buildings within 500 feet of the Facility. There are also no parks, wildlife management areas, wildlife refuges or significant cultural resources located in proximity to the Facility. The proposed Facility is not visible from any adjacent waterways. The Facility is not visible from nearby waterways and roads that have routine travel due to hurricane protection levees in the area and other geographic features. The area surrounding the site is wooded and levees, which acts to buffer and reduce noise from the operation of the Facility. Additionally, the area is currently subject to ship travel on the Mississippi River. In summary, the Facility for which approval is sought, has an overall beneficial effect.

The primary risks associated with a facility of this sort, groundwater and surface water pollution, have been avoided to the maximum extent possible. Additionally, due to the remote location of the Facility, aesthetic impacts are minimized. The combined effect of locational characteristics, equipment/facility configuration and operational controls act to reduce, to the maximum extent possible, potential and real adverse environmental impacts.

The proposed facility will be located on land near Bohemia Louisiana. The injection well site is on undeveloped land, and does not endanger any wetlands, endangered species habitat, or prime agricultural area. The area is not near schools, hospitals, or residential areas. The nearest fishing camp is approximately ½ mile away, and is owned by the applicant. Access to this proposed well is available primarily by road. The site and adjacent areas have not been in use for at least 30 years, except for oil and gas exploration and production related activities.

The area is primarily open undeveloped land. Premier's neighbors are Champagne, et al and Orleans levee Board.

NORM contaminated E&P waste materials will be prepared for injection on the land areas adjacent to the well in contained vessels. NORM handling and processing activities will be primarily performed by Premier and/or a company which is specifically licensed by the Radiation Protection Division of the La. DEQ or by an appropriate agency of an Agreement State. In cases where Premier personnel or personnel of another company, which is not otherwise specifically licensed as provided above, become involved in a licensed activity, Premier will ensure that all such personnel receive adequate worker protection NORM training prior to engaging in such activities. All workers will be protected as provided for by applicable regulatory requirements. After the NORM is prepared for injection, it will be pumped through an injection line to the well.

The well will be drilled by a land drilling rig. The proposed drilling operations are common to the oil and gas drilling industry in South Louisiana.

There are no wells for watering of livestock within 1.0 mile and no potable water wells within 1.0 mile of this site.

The injection well is within a mile from the Gulf of Mexico, therefore it is assessed that there are no potable freshwater sands in the immediate area in accordance with LDEQ published findings. LDOTD Water Resource studies and publications verify this finding.

This site and operations should have minimal impact on air quality. Nonhazardous E & P waste containing NORM will be mixed with water and other slurring material to form an injection slurry. This slurry will be pumped through an injection line to the well. The E&P waste containing NORM will not be exposed to the atmosphere after the slurring process. Effluent releases and worker's breathing air will be sampled and analyzed. This sampling activity will document any releases, worker exposure, and potential for migration of particulates off the site. The waste will be received at atmospheric pressure, therefore most volatile organic compounds, and their related odors, should have flashed off prior to transport to the Facility.

When Premier's operations at the site cease, Premier will survey, sample as necessary, and evaluate the site to ensure that radio nuclide levels are suitable for the property to be released for unrestricted use. These results will be provided to and reviewed by the LDEQ. The site will also be closed under the Office of Conservation's regulations.

To the maximum extent possible, the operations will be designed to avoid any water contamination. The waste material that is proposed to be disposed is primarily generated by the oil and gas industry. There should not be any on-site waste generation, with the exception of possible filters and washout water. Any on-site waste should be suitable for processing and disposal at the Facility.

Any waste that can not be handled at the Facility will most probably be shipped to an existing commercial facility in Louisiana for surface disposal (E&P and NORM waste), an existing commercial facility in Louisiana for injection (produced water), or an approved commercial disposal facility in a neighboring State.

In the event of a flood or impending high water all waste materials will be injected downhole and/or secured in fixed roof tanks.

Due to the permanent fate of waste disposed of by deep well injection and the closed loop processing system, there is minimal to no short or long term effects of the disposal system. The applicant believes that deep well injection is the preferred method of E&P waste and NORM

waste for disposal, due to the fact that it will be deposited in a formation deep within the Earth that has similar physical and chemical characteristics from which it originated.

Considering the above, Premier believes that the potential and real adverse effects of the proposed facility have been avoided to the maximum extent possible.

II. **Does a Cost/Benefit Analysis Demonstrate that the Social and Economic Benefits of the Facility Outweigh the Environmental Impact Costs?**

Yes. A cost/benefit analysis does demonstrate that the social and economic benefits of the Facility outweighs the environmental impact costs. As noted above, the environmental impact costs of the Facility may be characterized as potential ground water, surface water, soils, air contamination and aesthetic impacts. Concerning direct social and economic benefits, the Facility will employ approximately ten (10) people. These employees and equipment and services cost will contribute to the local, State, and Federal tax base.

Construction and maintenance fees to be paid to third parties will be a considerable benefit to the local companies.

In the light of the United States current need and efforts to increase domestic oil production and reduce reliance on foreign oil, the need to ensure adequate, economically feasible and environmentally safe disposal capacity such as that to be provided by Premier Environmental, LLC is extremely important.

Another important consideration when assessing the social and economic benefits of the Facility is the environmental benefits of disposal via injection. Prior to the ban in Louisiana of the discharge of produced waters to surface waters, the discharge of such waste presented serious environmental drawbacks. Premier Environmental, LLC's proposal to construct a facility to offer an environmentally preferable disposal method (injection) is necessary to avoid the societal costs of the adverse environmental impacts associated with surface discharge of produced waters and land treatment of NORM waste.

Premier Environmental, LLC has examined the market for disposal services and has determined that the need exists and will continue to grow, particularly with efforts to increase domestic oil and gas production. The level of business conducted by Premier Environmental, LLC should grow steadily, and lend to service the multiple producers located in the Plaquemines and surrounding area, can be best satisfied by the Facility.

In summary, the social and economic benefits of the Facility clearly outweigh the environmental impact costs. As discussed above, the real and potential adverse impacts of the facility have been avoided to the maximum extent possible, the "cost" component of this analysis is minimal.

Oil and gas production activities have occurred for many years. Most oil and gas production operations generate waste with NORM contamination of some degree. This unintentional production of NORM contamination occurred for many years, and at present, is unpreventable.

Because of the possible potential health hazards associated with NORM (^{226}Ra and ^{228}Ra), the DEQ promulgated rules to control how the material and contaminated equipment are managed. These controls ensure that individuals who engage in the handling of NORM are properly trained and qualified to conduct operations safely with minimal or no exposure to workers, the general public and the environment. DEQ regulations specify procedures for NORM activities that set standards for personnel protection, decontamination, release of property, and worker training. Premier's proposed facility for the disposal of E&P waste containing NORM is consistent with the intent of the DEQ regulations to protect the environment, the public, and workers from exposure to NORM.

The Premier injection well will offer a positive economic benefit with little or no adverse environmental impact. NORM, and specifically, the radium isotopes are alpha emitters that, when ingested, result in much greater radiation exposures. It is imperative that NORM handling, treatment, and disposal activities are conducted and controls instituted to minimize exposure pathways. This facility offers waste disposal technology that will remove NORM from the surface and place it more than 1000' underground in such a manner to isolate it from people and their environment. Currently, any NORM contaminated material that has been generated from oil and gas operations in the region are being stored on the surface. This facility will dispose of the NORM through deep well injection, to eliminate potential exposure to the public and

environment.

This injection will be located on private land, which is leased by the applicant. The entire area currently is undeveloped.

Premier has emergency spill response capabilities located nearby. Therefore, emergency oil or hazardous substance spill response could be initiated quickly.

The proposed facility should have no negative economic effect on the local property values. There should be no increase in public cost for police protection, fire protection, medical facilities, schools, or road improvements.

The proposed facility will not preclude any economic development in the area because of risk associated with the operation.

The facility will primarily serve the oil and gas industry in Plaquemines Parish and to a lesser extent the surrounding parishes. The Facility proposes to generally serve the oil and gas industry in the Gulf Coast region.

The regional and local roads are currently capable of handling any traffic volume increase. Premier believes that the minimal environmental impact costs are outweighed by the social and economic benefits of the proposed injection well.

III. Are there alternative projects which would offer more protection to the environment than the proposed facility without unduly curtailing non-environmental benefits?

No. There are no alternative projects which would provide more protection to the environment than the Facility, as proposed, without curtailing non-environmental benefits. Under this portion of the analysis, a permit applicant is required to assess potential alternative projects and technologies. In the case of the Facility, the analysis would examine alternatives to the use of a commercial injection well facility of the disposal of saltwater, associated oilfield wastes, and NORM related waste materials produced through the production of oil and gas, at a facility accessible by land transportation. Conceivable alternatives, and the relative impacts of each, are discussed below:

1)**The "No Action" Alternative:** In the context of the environmental impact analysis required, one alternative which the agency is required to assess is the "no action" alternative. Because granting the Application would actually provide environmental benefits in the form of an injection well and means of disposal, the effect of not granting the application would be to prevent improvements to alternative saltwater and NORM disposal methods that are more closely monitored. Again, the loss of such disposal capacity would have serious adverse consequences for a number of oil and gas producers who would utilize the Facility for disposal capacity. Premier Environmental, LLC contends that the result of this alternative is unacceptable.

2)**The "No Injection" Alternative:** Although, as noted above, denial of the Application would not result in the cessation of disposal activities in the region, it is nonetheless conceivable to consider, from the general standpoint, alternatives to injection of NORM waste. Simply stated, there are no technologically, economically or environmentally viable options for disposal of and NORM waste. Treatment of such waters to remove salt and other contaminants which may cause degradation to surface water quality would clearly be cost prohibitive. As a liquid waste, it is not suitable for landfilling or land farming. Perhaps most

important is consideration of the effect of the ban on discharges of produced waters to waters of the state, thereby foreclosing surface discharge as a viable alternative. See LAC 33:IX.708. The alternative to deep well injection of NORM waste, is to landfarm it in surface soils, thus exposing the environment and humans to the long term consequences of surface application.

3) **The Non Commercial Facility Alternative:** Another potential alternative to the use of the Facility is the use of community wells or the use of on-site non-commercial injection wells. This option is simply not available for many producers. As indicated above, waste disposed at the Facility would come from multiple sources. These sources, which are collectively responsible for a significant quantity of oil and gas production, utilize a commercial facility because there are no alternatives.

In this case, the "no action" alternative would result in a facility which provides less protection to the environment due to the lack of alternative disposal. The "no injection" alternative is likewise not viable. Surface discharge of the waters is prohibited and it is not economically and technologically feasible to treat the produced water or dispose of it in some manner other than injection. Finally, the alternative of disposal via a community or onsite non-commercial well is not available in many circumstances. Clearly, the alternative of disposal by injection of produced waters at the Facility is the only viable alternative.

The technology to be utilized involves mixing the nonhazardous E & P waste containing NORM in such a manner so that they are the consistency of a slurry, much like drilling mud. The waste streams containing NORM are typically the consistency of soil prior to slurring. Water, clays, such as bentonite and other typical drilling mud type of chemicals, are added to the nonhazardous E & P waste containing NORM. This mixture is ground to reduce particle size causing a slurry to be produced. This slurry can be pumped into the underground formations, which have been approved to receive the slurry by the Injection and Mining Division of DNR.

The injection will be to salt water sands below 1000'. Two sets of casing will be cemented in the well to protect the shallow intervals. A third protection will be provided by the injection tubing. This technology has been utilized in Louisiana for the injection of oil field brines, and in Texas for the placement of nonhazardous E & P waste containing NORM.

Radiation surveys, soil sampling, and air sampling will be conducted before and during all injection operations at this site. Results of this surveying and sampling work will be transmitted to the DEQ, as required.

Under routine daily operations, Premier will receive nonhazardous E & P waste, which may contain NORM, slurrify the wastes, and inject the slurry into the well. All these operations will be primarily performed by Premier and or a company which is specifically licensed by the Radiation Protection Division of the LDEQ or by an appropriate agency of any Agreement State. In cases where Premier personnel or personnel of another company which is not otherwise specifically licensed as provided above, become involved in a licensed activity, Premier will ensure that all such personnel receive adequate worker protection NORM training prior to engaging in such activities.

Equipment which is utilized in this operation, may become contaminated with NORM. Before the equipment leaves the site, it will be surveyed, the readings recorded and decontaminated of NORM. After passing a "wipe" test for removable surface contamination, the equipment will be released from this site.

The only other technology available to the oil and gas industry for disposal of this waste is surface disposal at a commercial facility where the Radium specific activity is blended to 5 pCi/gm. Newpark's Texas disposal facility for nonhazardous E & P waste containing NORM uses similar technology as we plan to employ for this injection well.

Premier believes that there are no alternative projects or technologies which offer more protection to the environment than this proposed injection well.

Premier also considered other alternatives, such as NORM disposal in P&A wells. NORM disposal in P&A wells involves the disposal of NORM waste generated on a particular mineral lease to be disposed of in an oil and gas well that is being abandoned. The NORM is encapsulated in the production casing string of a well that is abandoned. This form of NORM disposal does not suit all applications, as there are oil and gas operators who generate NORM waste that can not be disposed of in one of their oil or gas wells that are scheduled to be abandoned for the following reasons: the timing of when the NORM waste needs to be disposed of and when wells are available for disposal, not all oil and gas wells possess the mechanical characteristics or integrity suitable for NORM disposal, lease restrictions, volume restrictions, and limited technical knowledge of the required process. Additionally, NORM disposal in abandoned oil and gas wells will place the NORM pill closer to the surface and subject to potential future casing integrity issues than with slurry fracture injection. Slurry fracture injection provides for a single site to be closely monitored for all the safety, health, and environmental concerns, where NORM disposal in abandoned oil and gas wells would require the monitoring of thousands of abandoned wells in order to dispose of the volume of NORM waste that the energy industry generates.

IV. Are there alternative sites which would offer more protection to the environment than the proposed facility site without unduly curtailing non-environmental benefits?

In reaching the determination that the present location of the Facility is the most favorable location (or, more appropriately, that it would not be advisable to locate the Facility elsewhere), Premier Environmental, LLC considered a number of factors to rank potential alternative areas within the approximately one hundred (100) mile radius service area. The first factors were the all important issues of favorable geologic and hydrogeologic conditions. Other locations in the Louisiana Gulf Coast area and Plaquemines Parish were considered, however, none provided the geographical and geological setting advantages of the proposed site. Favorable geologic and hydrogeologic characteristics were given significant weight as factors to assess the viability of potential alternative sites. As demonstrated by the north/south, east/west structural cross sections provided to LDNR as part of the application, it was confirmed that the existing location has favorable characteristics which will serve to protect surface freshwater resources in the area.

The next factor was proximity to sensitive environmental areas such as significant surface water bodies or cultural resources (i.e., historic, cultural or recreational resources), populated areas or inconsistent land uses. Although the Facility has wetlands within its area of review, these are not of particularly high value when compared to other areas which may provide an alternative location. In Particular, a move in either the directions would place the facility closer to significant surface water bodies with greater recreational and wildlife values, while eliminating the ease of transport and safety. A move to the north would likewise create problems, in that the facility would potentially be close to populated areas.

Availability of adequate transportation factor includes economic, safety and environmental considerations, since increased travel results in increased costs, increased safety risks (including increased risk of spills) and increased pollution from fuel consumption. Again, location in proximity to highway access is of paramount importance, and is the need to be

located in an area of high production of produced waters.

Thus, the issue of potential alternative sites was assessed based upon consideration of a number of environmental and non-environmental factors. An examination of this issue indicates that there are no alternative sites which would offer more protection to the environment than the Facility, as proposed, without unduly curtailing non-environmental benefits.

Premier evaluated several sites in the site selection process. The site, which has been historically undeveloped, offers the following advantages:

a. The site is isolated from residential, commercial, and industrial use.

b. The land owner is in favor of using the site for the injection of the waste, which aids in the cleanup of property owned by other landowners.

c. The area does not have potable water.

d. The subsurface geology is well known, and offers suitable salt water sands for our injection purposes.

e. No residences are located at this site.

f. Emergency services are located nearby.

Premier has considered other sites in Louisiana, including the proposed deep water port area in Venice, and other land based facilities north and south along the Mississippi River. Transportation difficulties caused us to select Bohemia, along with its unique characteristics noted above.

Premier knows of no site which would offer more protection to the environment than the proposed injection well site. Premier will take all reasonable measures to ensure protection to the public, workers, and the environment.

Approximately six other sites were considered. A few of these sites were located in:

- **West Baton Rouge Parish, on or near the Intracoastal Waterway,**
- **In an abandoned oil and gas field in Livingston Parish,**
- **In an abandoned oil and gas field offshore Louisiana,**
- **At an abandoned facility near Mermentau, Louisiana.**

Premier utilized the criteria illustrated above to consider a suitable site to locate the subject facility.

V. **Are there mitigating measures which would offer more protection to the environment than the facility as proposed without unduly curtailing non-environmental benefits?**

A review of the primary mitigation systems and techniques proposed at the Facility demonstrates that there are no mitigation measures which would offer more protection to the environment than those proposed without unduly curtailing non-environmental benefits. Although discussed above in great detail in response to the question concerning avoidance or minimization of adverse environmental impacts, a listing of mitigation measures incorporated into the design and operational plans of the Facility demonstrates that there are no additional mitigation measures which would offer more protection to the environment than the Facility, as proposed, without unduly curtailing non-environmental benefits. These include:

1. Favorable locational characteristics (Geology, Remote Location, Distance to Parks, Etc.):;
2. Deep injection perforation zone;
3. New well construction.
4. Secondary containment on storage areas;
5. Facility configured to allow zero discharge from operations;
6. Extensive spill prevention and control measures;

The combined effect of the foregoing measures is a facility where the potential adverse impacts have been mitigated to the maximum extent possible. No additional mitigation measures could be utilized which would offer more protection to the environment without unduly curtailing non-environmental benefits.

The personnel will be trained in hazardous materials handling, oil spill response, radioactive material handling, and will receive 8-hour annual refresher courses. The Premier employee and contractor's work will be supervised by an experienced Radiation Safety Officer. The Premier onsite representative will be experienced in handling NORM contaminated soils,

and will have received the 40-hour Radiation Safety Officer training. The Premier onsite representative and the Project Engineer assigned to the disposal well operations are thoroughly familiar with all regulatory requirements governing remediation of sites containing NORM and disposal well activities. This should ensure that all regulations and safety practices are observed in the field.

The site is accessible by land. When operations are underway, the site and equipment will be manned 24 hours per day. When operations cease, we will chain and lock the facility to prevent unauthorized access.

Premier maintains written contingency plans for hurricanes, spills, blowouts, and handling E&P waste containing NORM. In addition, Premier maintains a trained staff for implementing these contingency plans.

Premier believes that the steps and methodology proposed are more than sufficient to prevent unnecessary exposure to workers and the public and to prevent routine releases to the environment. The injection well will offer a safe disposal method for disposal of E & P waste contaminated with NORM. This process allows the NORM to be injected into the subsurface of the Earth. In essence, the NORM is returned to the subsurface environment form whence it originated.

The proposed injection well process has been extensively reviewed by the Injection and Mining Division of DNR and by the Radiation Protection Division of DEQ. The proposed method of disposal and the steps taken or proposed are adequate to prevent exposure to workers and the public, and to prevent potential release to the environment. Furthermore, measures for handling emergencies either meet or exceed those normally imposed for a disposal well. Premier knows of no additional mitigating measures which would offer more protection to the environment than the injection well as proposed, without unduly curtailing non-environment benefits.

Premier requests that the LDEQ and the LDNR grant permission for Premier to utilize the proposed well for the injection of E & P waste which may contain NORM.

CONCLUSION

In considering the IT Questions in this case, consideration must be given to the fact that the action requested, by way of the Application, is approval of a new commercial SFI disposal facility, which may be summarized as follows: the permitting of a new well at a deep injection interval to dispose of produced saltwater, regulated oilfield waste, and regulated NORM waste. Carefully reviewing the proposed construction of the well indicates that the facility will have an overall beneficial environmental impact and that the application should be granted.

An analysis of the specific IT Questions confirms this contention. The potential and real adverse environmental effects of the Facility have been avoided to the maximum extent possible. Aspects of the Facility's location, equipment/configuration and procedures act to reduce or eliminate the risk of groundwater impact, surface water impact and adverse aesthetic impacts. A cost/benefit analysis demonstrates that the social and economic benefits of the Facility, as proposed, outweighs the environmental impact costs. For numerous oil and gas producers, disposal capacity such as that provided at the Facility is the only technologically and economically feasible alternative; there simply are no alternative technologies or projects which would provide more protection to the environment than the Facility, as proposed, without unduly curtailing non-environmental benefits. Additionally, there are no alternative sites which would provide greater protection to the environment than the existing site of the Facility. Finally, a review of the numerous measures implemented at the facility to protect against adverse environmental impacts indicates that there are no additional mitigation measures which would offer more protection to the environment than those proposed without unduly curtailing non-environmental benefits.

Information included in the responses provided above was provided by management personnel and consultants of Premier Environmental, LLC. The responses have been reviewed by Premier Environmental, LLC management and found to be accurate. Premier Environmental, LLC contends that the information provided above is sufficient to conduct a legally sufficient analysis of the IT Questions in this case. However, in the event the Louisiana Department of Environmental Quality requires additional information related to these issues, Premier Environmental, LLC respectfully requests that it be given written notice of perceived deficiencies and allowed to supplement these responses. Additionally, to the extent public comments on the Application bear on the issues discussed herein, Premier Environmental, LLC reserves the right to respond to such comments.

Premier Environmental, LLC requests that these responses be placed with the Application and made available for public review.

Respectfully Submitted

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Mr. Steve Haller
Premier Environmental, LLC

1.0 INTRODUCTION

1.1 General

Premier Environmental, LLC, hereafter referred to as Premier desires to legally dispose of material in a manner such that the environmental impact is nil.

1.2 Purpose

The purpose of this application is to provide a detailed plan, as required by the Louisiana Department of Environmental Quality (LDEQ), Emergency and Radiological Services Division (ERSD), for the operation, personnel training and safety, and emergency contingencies for:

- Preparation and deep well injection of NORM waste
  - Preparation of NORM waste for injection (slurried)

    Off loading, storage and preparation of NORM waste for injection will be accomplished by facility personnel and/or contract personnel specifically licensed to handle and process NORM waste for injection. All contract personnel will be required to comply with the radiation protection practices outlined in this application.
  - Injection of NORM waste

All operations will be conducted on Premier controlled property in the vicinity of the injection well.

2.0 HEALTH PHYSICS PROGRAM

2.1 Restricted Area

Restricted areas will be as follows:

- NORM Waste Storage Area
- NORM Waste Preparation Area
- NORM Waste Injection Area

All restricted areas will be marked with signs labeled as follows: "Caution: *Radioactive Material*". Such areas will be delineated by the use of rope, caution tape or other similar means. The restricted areas will be secured by the personnel survey procedures described in Subsection 2.4.3.

2.2 Qualification of Personnel

The radiation safety officer will verify that all persons subject to working in and around restricted areas have successfully completed the required training (LAC 33.XV.1012). Successful completion of training will be documented by testing all trainees and issuing training certificates. Maintenance of records will be in accordance with Subsection 2.8.3. This training will consist of a minimum of four hours classroom instruction, practical factors and an examination. Records of training and qualifications will be maintained on site for each person involved in radiological work.

2.3 Personnel Training and Safety

2.3.1 General

Personnel will be trained in the performance of their jobs, equipment operation, radiation monitoring and protection, and safety. Normally, all surveys will be conducted by the radiation safety officer; however should it become necessary for other persons to conduct surveys, such persons will be trained in accordance with the Environmental Regulatory Code, Part XV, Chapter 14, Appendix A. Training will be conducted by an organization approved by the LFIPD or by Premier Environmental Corporation's Radiation Safety Officer after the submittal of a program approved by the ERSD.

2.3.2 Personnel Training

All Premier employees subject to entering a restricted area will attend a four-hour training program consisting of lecture sessions and hands-on exercises. Topics of the training program wilt include:

- Origin and nature of NORM
- Types of radiation, safe and expected exposure levels
- Biological effects of radiation exposure (including exposure to the unborn)

- Radiation monitoring methods and equipment
- Radiation survey techniques
- Radiation protection, safety equipment, and safety rules
- Establishing, posting and controlling access to restricted areas
- Emergency contingencies and procedures
- ALARA philosophy and goals
- NORM regulations

Refresher training courses will be conducted annually and will consist of selected topics listed in Subsection 2.3.2. The training will be conducted by an organization approved by the ERSD or by Premier Environmental LLC's Radiation Safety Officer. A synopsis of the training and a listing of attendees will be maintained as a part of the permanent records file.

2.4 Personnel Monitoring

2.4.1 Radiation Surveys

Each person working in a restricted area will be required to wear an assigned radiation badge. The radiation badge, when not being worn, will be stored in a noncontaminated area (field office). A control badge will be stored in the same location.

2.4.2 Badge Supplier

Any NVLAP approved vendor.

2.4.3 Personnel Surveys

All personnel exiting the NORM preparation and NORM storage areas will perform a thorough personal contamination survey using a Ludlum Model 2 or Model 3 survey meter (or similar instrument) connected to a pancake probe. Surveys will be performed when personnel exit the injection area if any maintenance work or evidence of a spill or leak was observed. Any persons contaminated above twice background will be decontaminated, to back-ground, by washing. Any incident where it is found that a person has been contaminated to a level exceeding five times background will be

investigated. The results of the investigation will be documented and retained as a permanent record. If the investigation reveals improper work practices or habits such will be brought to the attention of all on-site Premier and contract operator employees. The radiation safety officer will periodically observe the restricted areas to ensure that the above procedure is followed and that no unauthorized persons enter the restricted areas.

2.4.4 Monitoring For Internal Exposure

The potential for internal exposure approaching 10% of an ALI to personnel associated with the preparation and injection of NORM is remote for the following reasons:

- All persons in the preparation area will wear half-faced respirators during the processing of dry NORM.
- The material is wet or will become wet during the preparation operation and as such will normally not become airborne.
- The material to be injected will be transported from the preparation area and into the injection well by a closed pipeline.
- 10% of a DAC is 3×10^{-11} ,µCi/ml or 30 pCi/m^3. If the NORM is at a concentration of 1000 pCi/g then it would require an air concentration of 30 mg of "dust" per m^3. The OSHA nuisance dust limit is 10 mg/m^3 therefore it is highly unlikely that one could reach an air dust loading of 30 mg/rn^3.

Bioassay will be considered anytime there is physical evidence of a rupture, upset or other incident where a fogging of dust occurs. Bioassay will consist of the collection and analysis of urine samples. The radiation safety officer will determine if the incident warrants bioassay. Anytime there is an incident where bioassay is considered, the incident will be documented and made a part of the permanent records. In any case where bioassay is not performed, the reason(s) for such decision will be included in the documentation.

Pursuant to LAC 33:XV.442.A.3.g, a determination by a physician prior to initial fitting of respirators, and at least every 12 months thereafter, will be conducted to ensure that the individual user is physically able to use the respiratory protection equipment.

2.5 Area Monitoring

2.5.1 Radiation and Contamination Surveys

2.5.1.1 Preparation Area

At the beginning of each workday, a radiation survey of the restricted area surrounding the preparation area will be conducted. Any area reading 2 milliroentgen/hr or more, will either be decontaminated or shielded to the extent necessary to reduce the radiation reading to less than 2 milliroeritgen/hr, prior to commencing routine operations. Records will be retained for any radiation survey where a reading of 2 milliroentgen/hr or greater was observed. A weekly radiation survey will be conducted and the results recorded on a map of the area. Additionally, weekly wipe tests will be conducted and the results recorded on a map of the area. Wipe tests will be taken by wiping approximately 100 cm^2 with a cloth, absorbent paper, or styrofoam tab. Wipe test samples will be counted by the radiation safety officer using a Ludlum Model 2 or Model 3 survey meter connected to a pancake probe. The counting will be conducted in a contamination-free area by placing the wipe in contact with the pancake probe and observing the count rate for a minimum of 15 seconds. The results will be recorded on a map of the area. Since this is a restricted area it is reasonable to expect and allow for some contamination. The action level selected is 2200 dpm alpha (this level is the same as the DOT limit allowed for contamination on packages). Assuming a minimum instrument alpha efficiency of 10%, 220 cpm is then equivalent to 2200 dpm, normal background is approximately 40 cpm; therefore for ease of field use, five times background (40 cpm x 5 = 200 cpm) has been selected as the action limit. If the results exceed five times normal background, decontamination will be performed prior to commencing routine operations. Such wipe test results will be maintained.

2.5.1.2 NORM Storage Area(s)

The NORM storage area(s) will be surveyed with a microR meter on a weekly basis. The survey will consist of surveying random sites within the storage area and along the perimeter of the storage area. Should perimeter readings exceed 2 milliroentgen/hr, appropriate steps will be

taken to assure that personnel exposure is minimized. Possible steps include increasing the size of the restricted area or shielding the restricted area. Results of surveys exceeding 2 milliroentgen/hr will be documented and become part of the permanent record.

2.5.1.3 Items and Equipment Associated with NORM Preparation

Should it become necessary to repair or replace items or equipment associated with NORM preparation, such will be surveyed with a micro-R meter and wipe tested for removable contamination. The wipe test samples will be counted with a Ludlum Model 2 or Model 3 survey meter connected to a pancake probe. In the event that the results of either test are statistically above background, then such items or equipment will undergo decontamination by washing or wiping down prior to movement out of the restricted area. Wash water will be collected and returned to the slurring circuit.

Statistically, above background is determined as follows:

let R = least survey meter reading above background,
and B = maximum background survey meter reading.

Then for survey meters calibrated to plus-or-minus 20% accuracy,

$$B + 20\%B = R - 20\%R.$$

Therefore,

$$R \approx 1.5\ B$$

A survey meter reading statistically above background must be at least 1.5 times the maximum background reading. Therefore in a practical application, statistically above background will be determined as being two times background.

2.5.1.4 NORM Injection Well

The NORM injection area will be surveyed with a micro-R. meter on a monthly basis. The survey will consist of surveying random sites within the injection area. Should readings exceed 2 milliroentgen/hr, appropriate steps will be taken to assure that personnel exposure does not exceed 100 millirem per week. Possible steps include limiting the number of hours spent in the restricted area or shielding the restricted area. Results of surveys exceeding 2 milliroentgen/hr will be documented and become part of the permanent record.

2.5.2 Environmental Surveys

2.5.2.1 Air Monitoring - NORM Preparation Area

Air sampling of at least an eight hour duration will be conducted no less than once every week when operations are being conducted to ensure that air concentrations do not exceed 3 x 10^{-10} ;µCi/ml gross alpha. The sampling points will be downwind from the preparation area. Air sampling pumps will be flow calibrated annually in accordance with manufacturer's recommendations. Sampling time and airflow will be recorded when samples are collected. Individual samples will be placed into either plastic or paper envelopes with applicable identification information. Air samples will be analyzed in accordance with the manufacturer's recommendations for counting equipment or by a laboratory approved by the LRPD. Such results will be retained.

2.5.3 Other Surveys

2.5.3.1 Preoperational Surveys - NORM Preparation and Storage Areas

Surveys will be conducted with a micro-R meter to ensure workers will not be exposed to levels greater than 2 milliroentgen/hr, and to obtain data to verify that the areas are being returned to pre-operational conditions upon completion of the decommissioned site. The survey will consist of taking readings on a ten-meter grid of the area. Readings will be taken within one cm of the ground surface. Such results will be retained.

2.5.3.2 Post-Operational Surveys NORM Preparation and Storage Areas

A survey will be conducted with a micro-R meter at decommissioning to confirm that activities did not result in the area(s) becoming contaminated with NORM. The survey will consist of taking readings on a one-meter grid of the restricted area being decommissioned. Readings shall be taken within one cm of the soil surface. Additional surveys will be taken on a three-meter grid in areas where NORM containers may have been transported. Micro-R meter surveys are considered to be an acceptable method to demonstrate whether or not additional contamination has occurred. Records of such surveys will be retained. Any area(s) found to be contaminated at a level equal to or exceeding two times background, or at the pre-operational level plus two times background or greater, will be decontaminated to less than two times background or to the pre-operational level. Additionally, the exterior of all equipment will be surveyed prior to removal from the restricted area. Prior to movement of equipment, any such equipment that is externally contaminated with removable NORM contamination at levels statistically above background will be decontaminated to background levels by washing.

Equipment will be placed inside a contained area with plastic or other suitable liner to contain the wash water and dislodged contamination. Pressure washers or other similar equipment will be used to clean the equipment. Contamination removed from the equipment and any contaminated wash water will be disposed of in the injection well or by other approved procedure.

2.6 Personnel Protection

2.6.1 Personnel Protective Equipment

The radiation safety officer will determine the protective equipment and clothing necessary. Protective equipment and clothing will be worn if the potential exist for external or internal contamination. Typical clothing and equipment are as follows:

- Anti-contamination clothing
- Inner surgical glove
- Outer glove
- Half-face respirators (as required by Radiation Safety Officer and air sample results)
- Rubber boots (or equivalent)
- Safety glasses or splash shields (as Necessary)

Contractor personnel will abide by their respective NORM license and Worker Protection Plan regarding training and wearing of respirators. Premier personnel and visitors entering an area where the use of respirators is required will have first been trained in the use and maintenance of respirators. To ensure a given respirator affords a worker the prescribed protection, fit tests will be performed by every respirator wearer with any and every respirator worn. Fit tests will be performed with initial training, prior to respirator use and with refresher training. Fit tests will be performed by donning the respirator and performing a negative pressure face seal test. Records will be maintained of initial and refresher training fit tests.

Pursuant to LAC 33:XV.442.A.3.g, a determination by a physician prior to initial fitting of respirators, and at least every 12 months thereafter, will be conducted to ensure that the individual user is physically able to use the respiratory protection equipment.

2.6.2 Safe Work Procedures

2.6.2.1 Radiation Badges

Each employee working in a restricted area will wear an assigned radiation badge. The badge will be worn between the collar and the waist. Storage of the badges and a control badge will take place in a noncontaminated area. The radiation safety officer will periodically conduct a survey with a micro-R meter to verify that the badge storage area is not contaminated. All badges will be exchanged quarterly.

2.6.2.2 ALARA Procedures

- Skin contact with NORM will be minimized by emphasizing proper work habits and wearing protective clothing.
- Eating, drinking, smoking or chewing will not be allowed in restricted areas.
- Hands and face will be washed thoroughly prior to eating, drinking, smoking and/or chewing in designated break areas.
- Only authorized personnel will be allowed in restricted work areas; access to restricted work areas will be limited to personnel who have satisfied all training requirements, or as directed by the radiation safety officer.
- Personnel working in restricted work areas will be monitored upon exiting the restricted area. A thorough, personal contamination survey will be conducted using a Ludlum Model 2 or Model 3 survey meter connected to a pancake probe. As a part of the training each employee will be trained to conduct contamination surveys. Any persons observed with contamination readings above background will be decontaminated to background, by washing, prior to leaving the restricted area. If it is not possible to decontaminate by washing, surgical scrub brushes and detergents will be used followed by chelating agents as necessary. If the inability to obtain normal background readings occurs due to elevated readings in the frisk area, monitoring may be relocated as directed by the radiation safety officer.

- Contaminated work clothing will be placed in plastic bags and deposited into barrels. The barrels will be labeled in accordance with the Environmental Regulatory Code, 33:XV.453.

- Waste wash water will be collected and pumped into the injection well.

2.6.2.3 Safety Meetings

Personnel working at the facility shall conduct safety meetings each morning prior to start of work. All Premier employees routinely working at the site shall attend safety meetings when they are at the facility. As a minimum, all Premier employees routinely working at the site shall attend annual refresher training as per Section 2.3.2. Documentation of attendance at these meetings and training will be maintained.

2.7 Calibration and Maintenance of Survey Instruments

2.7.1 The radiation safely officer will ensure that all radiation survey meters are *in proper working order by daily battery checks and meter response to a* check source. The radiation safety officer will verify that survey meters are calibrated annually.

2.8 Retention of Records

2.81 Personnel Exposure

Records will be maintained indefinitely.

2.82 Retained Survey Results

Surveys yielding results, which dictate retention, will be retained for a minimum of five years. Retained survey records will include at least the following information:

- Type of survey and reason(s) for conducting the survey

- Person conducting survey

- Date of survey

- Instrument used to conduct survey -- identified by model, serial number, and date due for calibration
- Calibration data such that any data not recorded in microcuries or microroentgen/hr units can be converted to
- Item(s) surveyed

2.8.3 Location of Records

2.8.3.1 Required Notices and Records

The following notices and records will be posted and/or readily available for examination at the injection well site:

- Current personnel monitoring records
- NORM regulations
- Current training certificates
- NORM license
- Form DRC-3

The permanent records repository is located at the Premier Environmental office in Mandeville, Louisiana. The address is as follows:

Premier Environmental, LLC
629 Village Lane South
Mandeville, LA 70471

2.9 Waste Disposal

2.9.1 Contract Operator - NORM Preparation Area

Any equipment or clothing which cannot be readily decontaminated, will be placed in NORM waste barrels and retained. Disposal will be in accordance with the facilities' specific license. Premier will not generate any NORM waste that cannot not be injected.

2.10 Health Physics Instrumentation

2.10.1 Radiation Survey Instruments

- Ludlum Model 2 or Model 3 Survey Meter with Model 44-9 Pancake Probe, or equivalent
- Ludlum Model 2 or Model 3 Survey Meter with Model 44-2 Probe (micro-H meter), or equivalent

2.10.1.1 Daily Operational Checks

- Check batteries
- Check the survey meter with check source

2.10.2 Calibration

All radiation survey instruments will be calibrated at least annually. Calibration will be performed by an organization specifically licensed to calibrate such instruments, or by the manufacturer of the instrument.

2.11 Laboratory Used for Sample Analysis

The procedure will be to use laboratories accredited by a professional organization or such that has the demonstrated ability to meet the required limits of detection for the analysis of concern.

The radiation safety officer reports directly to the Facility Manager and has the responsibility of and the authority for:

- Conducting and maintenance of the ALARA program
- Enforcing the radiation safety policies and procedures
- Suspending activities deemed to be unsafe
- Taking remedial actions as necessary
- Making necessary reports
- Making decisions concerning licensed activities

2.12 Emergency Plan

2.12.1 NORM Spills

- Persons witnessing or becoming aware of a spill will immediately report such to their supervisor
- Prompt actions will be taken to limit the extent and spread of the spill
- All unessential personnel will be evacuated from the immediate spill area, but will be detained on the job site for contamination release surveys
- Immediate spill area will be secured from unauthorized access
- Appropriate measures will be initiated to minimize airborne contamination while confining the spilled material to the smallest area possible, and to prevent the spread of spilled material into ditches, streams, bayous or other bodies of water
- All spilled NORM, and any contaminated materials related to the spill, will be collected and securely containerized
- Personnel physically involved in the spill cleanup will wear the protective clothing and equipment identified earlier in Subsection 2.6.1
- Spill cleanup activities will be continued until contamination levels are reduced to the survey level of pre-operational conditions

2.12.2 Natural Emergencies

All operations will be shut down and personnel evacuated well in advance of a hurricane or tropical storm. NORM-related work activities will cease when flooding, tornado, or other severe weather warnings are issued by the National Weather Service or other public service agency which may have an effect at the job site.

In the event of a hurricane, all drums containing NORM will be single stacked and lashed together. Any heavy equipment that is not removed from site and is available, will be placed so as to provide storm protection and anchorage for the drums. If equipment is available and

time permits, the drums will be lashed down on a truck and transported to a preapproved inland location.

2.13 Emergency Contacts

Project Manager
Mr. Fred Litchliter
Office telephone (985) 626-8658

Corporate Radiation Safety Officer
Mr. J. M. Burton
Office telephone (318) 845-5468
Home telephone (318) 234-8772
Fax Number (318) 845-5474

3.0 PROCEDURES AND EQUIPMENT

3.0 Operational Procedures and Equipment

3.0.1 Transporting and Off-Loading Norm

NORM waste will be transported to the site by barge or truck. The NORM material will be contained in drums, roll-off-boxes or in the hold of a cargo barge. The material in the drums and roll-off-boxes will be unloaded from the barge or truck and placed in the restricted NORM storage area to await disposal. The material in the hold of a cargo barge will be off-loaded directly to the restricted NORM processing area.

Drums secured on pallets will be off-loaded using a forklift or pallet hook with a crane or other type of lift equipment. Individual drums will be picked up using an appropriate drum rack. Trucks off-loading drums will be situated as close as possible to the restricted NORM storage area to minimize the possibility of spilling material outside the containment. Uncontained NORM will be pumped when applicable or moved with dragline or excavator, or suitable materials handling equipment, to the processing area. A spilt apron will be placed between the cargo barge and the dock or deck barge to contain any possible spillage during all barge off-loading operations of uncontained material. Appropriate ground cover, such as 4-mil plastic sheeting, will be used over areas where contaminated material is transported to prevent contamination of the ground.

All barges containing containerized NORM and loose NORM will be offloaded to minimize any danger to waterways. All barge offloading facilities will be properly permitted with the appropriate government agencies, including but not limited to the U.S. Army – Corps of Engineers, Louisiana Coastal Management Division, and U.S. Coast Guard, as required. The barge offloading facility will maintain the appropriate aids to navigation, Spill Prevention and Countermeasure Control Plan, Facility Response Plan, and other appropriate and/or required accident and pollution control plans. Spills and releases to hard surface areas will be prevented from barge offloading operations by pollution prevention procedures illustrated in other sections of this report. Spills and releases to waterways will be prevented by only offloading solid material over hard surface areas from the barge hold to the land base. Additionally, all materials will be offloaded to and across areas that are constructed with adequate containment to hold the largest volume of material being offloaded. All offloading of material will be witnessed by appropriate facility personnel who are licensed to handle NORM and are trained in spill response. Air monitoring will be conducted during the offloading of uncontainerized NORM material as required by LAC 33: Part XV and/or warranted by the RSO. Clean up procedures for any release to the land at the subject barge offloading facility will be the same as illustrated in other sections of this application at the main facility. Clean up procedures for any release to the water bodies at the subject offloading facility will be conducted pursuant to the media in which the waste is discharged. All unauthorized release events will be immediately and properly reported to the appropriate government agency pursuant to the SPCC plan. In the event of an unauthorized release; all personnel subject to exposure will be accounted for and notified, personal protection measures will be initiated, immediate action to protect human health and the environment will be initiated, the release will be ceased or controlled, the source of the release will be minimized, the site will be secured, the volume and radiation levels of materials released will be assessed, exposure to offsite receptors will be assessed, spill booms or other appropriate spill prevention equipment will be deployed, the continuation of offloading of the barge hold will be assessed to minimize additional potential unauthorized discharge, all equipment will remain in place to avoid additional impact to the environment until an assessment can be made, and all retrievable NORM waste will be recovered that was discharged to the environment and properly disposed.

3.0.2 Processing of NORM

The waste will be processed through shale shakers, chopper pumps, pug mill, mixing tanks or other suitable equipment and mixed with water, clay, drilling mud, or other chemical additives to achieve the proper slurry consistency for pumping and injection.

3.0.3 Injection of NORM Slurry

The NORM slurry will be pumped into the injection wellhead by pipeline. A spill apron will be constructed around the wellhead to prevent spilling in case of any leaks.

3.0.4 Security

The injection well is located on private property at the very end of state Highway 39. Plaquemine Parish, Louisiana. Access by road is restricted by a security fence and gate. Premiere's personnel are on duty 24 hours a day at the terminal to prevent any unauthorized entry into the area. The slurrying and injection will be conducted as a 24 hour a day operation. When injection operations are not being conducted, the well will be secured by lock and chain to prevent unauthorized access to the well.

4.0 QUALIFICATIONS OF PERSONNEL

Mr. JIM M. BURTON

PERSONAL

Date of Birth: 02/28/ 47

Nationality: U.S. Citizen

Status: Married

EDUCATION

B.S., Findlay College, University of Maryland
Major: Business Engineering
Petroleum Engineering
Psychology
18 hours Post Graduate work in law at Ohio State University
Many oil industry technical schools and seminars
U.S.L. - Level 5 Hazwopper/Hazmat, Emergency Supervisor - 40 hours
L.S.U. - Radiation Safety Officer - 40 hours
A.R.S. - Radiation Safety Officer training update - 8 hours
R.T.S. - Supervisor Radiation Class - 16 hours
Dr. M. Scott - Surveyor/Radiation worker - 8 hours

EMPLOYMENT HISTORY

1992 - Present:	President, Corp. Radiation Officer, Source Environmental Services. Inc.
1989 - 1992:	V.P., Senior Env. Engineer, RSO, Praxis
1984 - 1989	President, consultant Engr., Pits and P&A
1982 - 1984	Regional Engr/Supv., Brammer Engineering
1981 - 1982	Drilling Engr., Tenneco
1974 - 1981	Drilling/Production Engr., Exxon Company U.S.A.
1971 - 1974	Consultant Production Engr., Exxon Company U.S.A.
1968 - 1971	Military Intelligence Specialist, U.S Army

4.0PERSONNEL

5.0 FINANCIAL SECURITY

To be provided under separate cover

6.0 LOCATION

6.1 Site Location

The site is located at the end of State Highway 39 in Plaquemine Parish (see attached maps).

6.2 Facility Layout

The preparation and storage site will be located on the proposed tank battery site. Barges will be docked along side the bulkhead south of the proposed tank battery site. The injection well is located on land immediately adjacent to the proposed tank battery site (see attached maps). NOTE: Locations are general, specific layouts will be determined at the time the facility is established.

SCHEDULE OF RADIOACTIVE MATERIAL

Substitute Form DRC-13

Isotope	***Maximum Activity***	***Chemical Form Physical Form***	***Use***
^{226}Ra, ^{228}Ra and associated daughter products	Total to be processed	Any chemical and physical form radioactive material from oil and/or gas drilling, production, and related activities.	Deep Well injection
Lead 210			

ALARA PROGRAM

The following conditions describe the program followed by Premier Environmental, LLC to ensure that occupational radiation exposures to employees engaged in the use of radioactive equipment are kept as low as reasonably achievable.

1. MANAGEMENT COMMITMENT

Premier Environmental, LLC IS COMMITTED TO MAKE EVERY REASONABLE EFFORT TO MINIMIZE RADIATION EXPOSURES TO EMPLOYEES, THROUGH THE FOLLOWING CONTROL MEASURES:

a. Personnel will be made aware of management's commitment to maintain low exposure levels.

b. Management will periodically review operating procedures with radiation safety officer to determine steps taken to reduce exposures.

c. management will ensure that the person, or persons, selected for Radiation Safety Officer responsibilities are fully qualified to administer all aspects of a radiation protection Program.

d. management will ensure that all employees engaged in the use of radioactive equipment are fully trained in the area of radiation safety. This will be reviewed at least once a year, and additional training will be scheduled as necessary.

e. The RSO has fully authority to enforce safe operation, and to communicate as required with appropriate levels of management to halt an operation he deems unsafe.

2. VIGILANCE BY THE RSO AND RADIATION PROTECTION STAFF

The RSO has the responsibility to monitor the Radiation Safety Program to ensure that exposures are as low As reasonably achievable, and to search for new and better ways to perform jobs with less exposure. The following aspects apply to this responsibility:

a. The RSO shall know the origins of radiation exposure and be aware of trends in exposures.

b. Should unusual exposures occur, the RSO shall initiate an investigation of the circumstances to determine causes and prevent the likelihood of recurrence. Operating procedures should periodically be reviewed to identify situations in which exposures can be reduced.

c. The RSO shall be responsible for ensuring that the equipment used is maintained in good working order and used properly. Written procedures for use of the equipment are to be available and followed.

Printed Name: Mr. Steven G. Haller

Signature: [redacted]

(Management)

Phone Number: (985) 626-8758

Fax Number: _____

E-mail Address: _____

Note: Premier will review and modify this plan annually.

NORM WORKER PROTECTION AND

WASTE MANAGEMENT PLAN

PREMIER ENVIRONMENTAL, L.LC.

COMMERCIAL NONHAZARDOUS E&P WASTE

(CONTAINING REGULATED LEVELS OF NORM)

DISPOSAL FACILITY

LOCATED IN

SECTION 1, T17S-R15E,

PLAQUEMINES PARISH, LOUISIANA

Premier Environmental. L.L.C.
629 Village Lane South
Mandeville, LA 70471

June 2005

SECTION I

INTRODUCTION

This NORM Worker Protection and Waste Management Plan establishes written standard operating procedures (SOP) for worker protection, hazard identification, training, handling, maintenance, decontamination, accidents, storage, transfer and disposal of equipment, sites and materials contaminated with Naturally Occurring Radioactive Materials (NORM). These procedures:

- Apply to any production, processing, use, transfer, or disposal of NORM contaminated wastes, including scale deposits in tubulars, equipment, tank bottoms, production and process sludges, water, soil and other sources associated with oil and gas drilling, production, and transportation activities.
- Address release of land and equipment for unrestricted use.
- Apply to in-use and inactive equipment and sites.
- Comply with applicable state regulations and Premier's policies.
- Describe work and waste management practices designed to protect Premier's employees, contract personnel, and the public from undue exposure to NORM.
- Describes disposal options which Premier is considering and/or proposing for NORM waste disposal.

Various guidelines and equipment, as outlined in the application for Radioactive Material License, may be substituted for this policy.

1.1 Policy

Premier Environmental, L.L.C. (Premier) shall protect the health and safety of its personnel, contract personnel, and the public from NORM associated hazards through the use of engineering and administrative means and personal protective equipment. All Premier employees and contractor personnel shall follow the procedures set forth in this plan.

1.2 Responsibilities

Premier shall coordinate the development and revisions of this NORM Worker Protection and Waste Management Plan. Applicable state and federal regulations and Premier standards shall be reviewed and included in the SOP.

Premier shall coordinate the implementation, training, documentation, and enforcement of this NORM Worker Protection and Waste Management Plan. They shall also be responsible for revisions to comply with applicable state and local regulations and local operating needs.

Premier supervisors with NORM oversight responsibilities shall be trained in the significant hazard communication procedures and shall be responsible for the implementation and enforcement of the elements of this plan in their areas of operations.

1.3 Enforcement

Premier employees and contract personnel are required to comply with federal, state, local, and Premier established safety rules, standards, and procedures as conditions of employment or contracting.

SECTION 2

HAZARD IDENTIFICATION

A confirmatory survey shall be conducted at the proposed facility. Depending on the level of exposure and the risk of contamination, the facility shall be properly marked and/or posted to identify the hazard per federal, state, and local regulations and Premier's policies. Radiation exposure and contamination action levels shall be established to assist in hazard identification and determine worker protection procedures.

Except where it is already documented that there is no NORM contamination associated with the proposed operations, a NORM release survey shall be performed before the transfer of any land or equipment for unrestricted use. This includes:

- Termination of any leased land.
- Sale of surface or Premier operated land or leases.
- The sale of surplus or scrap equipment

All surveys, wipe tests, and sampling shall be documented in a clear and orderly fashion.

2.1 Background Radiation Levels

Background radiation levels will be established by surveying the facility and surrounding area. Typically, the lowest radiation level observed from a non-contaminated adjacent area is considered to be the background radiation level. Average background levels in Louisiana typically range from 4 to 10 μR/hr. The use of any background levels outside this range will be confirmed with the LDEQ's Emergency and Radiological Services Division.

2.2 Land Surveys

NORM confirmatory and release surveys shall be conducted by personnel properly trained in conducting NORM surveys and meeting state NORM surveyor qualifications, if applicable. Confirmatory surveys shall be conducted over land areas operated by Premier to determine if NORM contamination has occurred, as necessary. A release survey shall be conducted and submitted to the state for approval, if applicable, before the facility is released for unrestricted use which has not already been documented as being free of any NORM contamination.

NORM land surveys shall be made following the protocols outlined below and the applicable guidelines provided in LAC 33; Part XV, Chapter 14.

2.2.1 Grid Surveys

Land surface areas shall be screened for potential contamination using a grid surveying technique. The survey area shall be delineated into a grid with spacing no greater than 10 meters. In areas of known NORM contamination or areas exhibiting readings greater than twice background, the grid spacing should not exceed 3 meters. The survey meter shall be monitored continuously while performing the survey and all documented readings shall be taken with the detector of the survey meter at a distance of 1 cm or less above the ground.

Each grid line should be surveyed from outside point to outside point. Readings shall be recorded and/or referenced to a schematic layout of the survey area. Any elevated readings detected lying between grid points and along the length of the grid line shall be recorded.

If no readings equal to or greater than twice background were measured during a confirmatory survey, then soil sampling is not required. However, if the survey is for the release of an area for unrestricted use, representative soil samples from the site and adjacent areas shall be collected to establish background levels regardless if hot spots were encountered or not.

2.2.2 Soil Samples

Soil samples shall be collected and analyzed for NORM using methods and procedures required by federal and state authorities. Soil samples shall be collected for the following conditions:

1. To establish background levels for determination of action levels for land decontamination or for release of land for unrestricted use.
2. To determine contamination levels in areas where survey readings were more than twice the established background levels for the facility.

Soil sampling programs shall be comprehensive and cover the entire area being released for studies. Programs should follow the guidelines for sampling provided in LAC 33; Part XV, Chapter 14.

2.2.3 Sample Collection

The following procedures shall be followed for collecting soil samples:

1. Soil samples taken are collected in two distinct layers of soil. The first sample shall be taken from the layer of soil that extends from surface to 15 cm below its surface. If required, a second sample shall be taken from the layer of soil that extends from 15 to 30 cm below the surface of the soil. Each sample should be at least 1 pound or 1 pint of soil to ensure a representative sample for laboratory analysis.

2. A survey reading of the sample shall be taken after moving away from the contaminated area.

3. The date, time of collection, the sample identification, name of the sample collector and the sample survey reading shall be recorded on the sample container and documented on the sample collection record. Soil samples shall be submitted with a completed chain-of-custody form to an environmental laboratory that meets EPA criteria for a radiochemistry laboratory. Samples shall be analyzed for Radium-226 and Radium-228 and results shall be reported in pCi/gm or equivalent units.

4. All areas which are sampled shall be accurately identified on a scaled plot.

2.3 Equipment - External Surveys

NORM confirmatory and release surveys shall be conducted by properly trained personnel on any equipment which may be potentially contaminated with NORM materials. A NORM confirmatory survey shall be performed before any potentially contaminated equipment is to be worked on for maintenance or replaced. A release survey shall be performed and documented covering 100% of the surface area of the equipment and all accessible openings before release of the equipment for unrestricted use.

Equipment having external contamination shall be checked using the procedures discussed in this section.

2.3.1 Radiation Surveys

Radiation surveys on equipment shall be conducted according to the following procedures:

1. Surveys shall be conducted with a survey meter having at least a 1" x 1" Nat scintillation detector (Ludlum Model 19 or equivalent) calibrated from 1 to 500 μR/hr.

2. The detector of the survey meter shall be held at no distance greater than 1 cm from the exterior surface.

3. All accessible points shall be surveyed. Equipment must be surveyed 100% before release for unrestricted use.

4. The response of the instrument should be monitored continuously while surveying with the survey meter's response switch in the fast position. When NORM deposits have been detected, the survey meter response switch should be set to the slow position and a more accurate reading taken. When the response switch is in the slow position, the detector should be held in one place for at least 25 seconds before the reading is recorded.

5. Particular attention should be paid to areas where fluids change direction, temperature and/or pressure within the equipment (e.g. pipe elbows, tees, pumps, vessel bottoms, vessel/tank inlet lines, and man way areas), since these are the most likely locations where solids may accumulate.

6. The equipment survey shall be conducted and documented in an orderly fashion to assure that no contamination has been missed.

2.3.2 External Contamination Surveys

If there is external contamination, the equipment shall be screened with a survey meter using Ludlum 44-9 pancake probe or equivalent per specifications in Section 10.2. Where external contamination is detected, a wipe test shall be performed to determine if the contamination is removable.

2.3.2.1 Pancake Probe Survey

Contamination surveys for surface contamination on equipment shall be conducted as follows:

1. Slowly move the pancake probe with the window facing the equipment over the suspect area of contamination. Hold the probe as close to the surface as possible without contaminating the probe.
2. If a significant increase in count rate is observed, rotate the detector window away from the surface of the suspect area, but holding the probe in the same location.
3. If a significant change in count rate is observed by rotating probe window, external contamination may be present and a wipe test shall be performed over the area.

2.3.2.2 Wipe Tests

A wipe test is used to determine the amount of removable contamination that is present on the surface of an object. The procedures for performing a wipe test shall be as follows:

1. Wearing latex gloves, collect a sample by wiping a 100 cm2 section of contaminated area by applying moderate pressure with the wipe test filter paper or cloth.
2. Check the wipe test pad with a pancake probe to screen for contamination. Place the wipe test sample in a clean package and seal.
3. Document the date, time, name of sample collector, the location and size of the area where the wipe test was collected from, and the pancake probe's response to the wipe test pad compared to background, in CPM, on the envelope and then a wipe test record form.
4. Send the wipe test to a radiochemistry laboratory meeting EPA criteria for analysis for gross alpha/beta. The results should be reported in Pico curies or equivalent units (μCi, DPM, etc.).

2.4 Equipment – Internal Surveys

Due to various reasons, there could be internal NORM contamination to equipment that was not detected with the standard external survey techniques discussed in Section 2.3. For this reason, the internal surface of equipment, which may have NORM contamination, shall be surveyed before personnel enter or perform maintenance on the equipment. Most internal surveys can be performed with a survey meter with a 1" x 1" Nal scintillation detector. Some guidelines for performing internal surveys are:

1. Use survey instruments and techniques discussed in Section 2.3 to survey internal surfaces.
2. Use an external scintillation probe such as the Ludlum 44-2 to survey the interior of pipes less that 6 inches in diameter to insure better surface contact with any NORM deposits that may be present.
3. Survey the following locations:
   - Both ends of tubulars and pipes.
   - All openings in tees, manifolds, etc.
   - Both ends and the throats of valves.
   - Individual deposits or accumulations within vessels or tanks.
   - Internal surface of vessels and tanks.

2.5 Wastes

All wastes, deposits, and accumulations from equipment, tanks, and vessels which had external or internal surface readings greater than 50 μR/hr above background shall be treated as NORM contaminated wastes until samples have been analyzed by a radiochemistry laboratory meeting EPA criteria and analytical results indicate differently.

2.6 Action Levels

The following action levels shall be used for determining if equipment, facilities, land and/or waste shall be considered as NORM contaminated.

2.6.1 Equipment

Equipment shall be marked and identified as NORM contaminated if:

1. External or internal radiation levels exceed 50 μR/hr above background at any accessible point.
2. Equipment contains NORM materials with activities greater than 30 pCi/gm.

2.6.2 Land

Land areas shall be identified and posted, if required, as NORM contaminated when laboratory analyses of soil samples indicate that the concentration of Radium-226 and Radium-228 averaged over 100 square meters, with no single noncomposited sample to exceed 60 picocuries per gram of soil:

1. 5 pCi/gm or less, above background, averaged over the first 15 cm of soil below the surface, and 15 pCi/gm, above background, over each subsequent 15 cm thick layer of soil; or
2. 30 pCi/gm or less, averaged over 15 cm depth increments, provided the total effective dose equivalent (from the contaminated land) to individual members of the public (continually present) does not exceed 0.1 rem (1mSv) in a year.

2.6.3 Waste

Any waste material having a specific activity greater than 5 pCi/gm above background of Radium-226 and Radium-228 shall be considered a NORM waste. Any waste emitting a radiation level greater than twice background shall be analyzed for Radium-226 and Radium-228 in pCi/gm

before disposal or release to the environment.

2.7 Posting and Labeling

All containers, equipment, vessels, tubulars, and areas containing regulated NORM materials or wastes at regulated levels shall be labeled or posted per LAC 33; Part XV, Chapter 4, Subchapter G. At minimum, equipment and areas shall be marked and/or posted sufficiently to communicate potential hazards to workers and the general public. Posting, labeling, and marking guidelines for containers, equipment, and areas containing NORM materials are discussed in the section.

2.7.1 Areas

All areas containing and/or contaminated with non-exempt NORM materials or wastes shall be posted as follows:

1. All areas and rooms containing regulated NORM materials with a total activity greater than 100 nanocuries shall be posted with signs at all entrances and accessible sides bearing the tri-foil radiation caution symbol and 'CAUTION-RADIOACTIVE MATERIALS".

2. Any accessible area or room in which an individual could receive a dose exceeding 2 millirems in any one hour or 100 millirems in any 7 consecutive days shall be controlled and posted with signs at all entrances and accessible sides bearing the tri-foil radiation caution symbol and "RESTRICTED AREA".

3. All accessible areas and rooms in which an individual could receive a dose exceeding 5 millirems in any one hour or 100 millirems in any 5 consecutive days shall be posted at all entrances and accessible sides with signs bearing the tri-foil radiation caution symbol and "CAUTION-RADIATION AREA".

4. Entrances to NORM general licensed facilities and storage areas shall be posted with sign(s) bearing:
   - Generator name
   - General license number
   - NORM facility ID number
   - Contact name, address, and phone number

2.7.2 Containers

All containers containing non-exempt NORM wastes or materials with a total activity greater than 10 nanocuries for alpha emitters or 100 nanocuries for beta emitters shall be labeled per LAC 33; Part XV, Chapter 4, Subchapter G. In addition to the tri-foil radiation caution symbol and "CAUTION-RADIOACTIVE MATERIALS", the following information

shall be provided on the container:

- Generator Name
- Date activity estimated
- Kinds of material
- Estimated activity, if known
- Maximum surface radiation level
- Unique code and/or identification number

2.7.3 Equipment

In addition to pertinent requirements in Section 2.7.1 and 2.7.2, equipment containing nonexempt NORM materials or waste shall be marked and/or posted in such a manner that it shall provide sufficient information to permit individuals handling, using, or maintaining the equipment or working in the vicinity thereof, to take precautions to avoid or minimize exposure and/or contamination.

SECTION 3

ADMINISTRATIVE CONTROLS

Except where it is already documented that there is no NORM contamination associated with the facility, a NORM survey shall be performed before any transfer of land or equipment of unrestricted use. This includes:

- Termination of any leased land;
- Sale of surface or Premier operated land;
- Purchase of additional property for facility operations;
- The sale of surplus or scrap equipment.

3.1 Release of Land for Unrestricted Use

The following survey requirements are applicable to all Premier operations, which are not already documented as being free of any NORM contamination.

1. All land contained within the facility boundaries.

2. Surveys shall be conducted using the survey protocol outlined in Section 2.0. They shall include, as appropriate, a grid survey, soil samples, and a scaled survey map.

3.2 Release for Unrestricted Use - Equipment

All equipment and pipe that could have NORM contamination shall be surveyed 100% before being released for uncontrolled or unrestricted use. Such items can be released if the maximum radiation exposure level does not exceed 50 μR/hr above the background radiation level at any accessible point. Surveys shall be conducted per the procedures discussed in Sections 2.3 and 2.4.

3.3 Transfer of NORM Contaminated Land or Equipment

1. Land may be transferred for unrestricted use where the concentrations of Radium-226 and Radium-228 in soil averaged over any 100 square meters does not exceed the background level by more than:

   - 5 pCi/gm.

   * Equipment will be decontaminated to reduce the exposure to levels below those specified in Section 2.6 of this document, and consistent with LAC 33; Part XV, 1414.

2. If NORM-contaminated lease/land is to be released for unrestricted use, the lease or land shall be subject to applicable state standards.

3. If the site requires decontamination, a survey and a remediation plan and procedures shall be submitted to the appropriate state agency for review and approval.

4. If any hot spots are not to be remediated, documentation on the contaminated area and the proposed reasons for not remediating shall be submitted to the appropriate state agency for approval before releasing for unrestricted use.

5. The NORM survey (and soil sampling, if indicated by the survey results), is to be conducted using the protocols in Section 2.0

6. Facilities and equipment contaminated with NORM in excess of the action levels in Section 2.6 shall not be released for unrestricted use without approval from the appropriate state agency.

7. Any transfer of NORM-contaminated equipment for reuse shall obtain advance approval from any other working-interest ownerships in the receiving property.

8. Upon release or transfer of NORM-contaminated facilities or equipment to another person for any reason, the primary interest shall inform the contractor or firm receiving the equipment that NORM-contamination is involved and what the approximate contamination levels are.

9. Equipment contaminated with NORM in excess of the action levels in Section 2.6 may not be sent to another party for maintenance, cleaning and/or overhaul unless the recipient (pipe/equipment cleaning company or contractor) is authorized by the state, of jurisdiction with control, to perform the activity on NORM-contaminated equipment.

10. If environmental site reviews or other tests indicate the presence of NORM, the transferor should disclose in writing, to the transferee, the results of the reviews or tests. This may be accomplished in many ways, including:

    - Placing a general disclosure statement in the sales agreement or deed covering, among other things, NORM,
    - Transferring company files to the transferee,
    - Making specific reference to the presence of NORM in the sales agreement or deed,
    - Providing the transferee with copies of site review reports, and
    - Providing access to the property and/or equipment and advising the purchaser of results of test for NORM.

3.4 Maintenance. Use and Decontamination

1. NORM-contaminated equipment may continue to be used, provided that the work and

waste management practices described in this SOP are applied.

2. All regulated NORM-contaminated equipment that continues in service shall be appropriately marked, posted and/or labeled in such a manner that it shall provide sufficient information to permit individuals handling, using or maintaining the equipment or working in the vicinity thereof, to take precautions to avoid or minimize exposure and/or contamination.

3. The decontamination, remediation or maintenance of equipment, facilities, and land shall only be performed by persons specifically authorized by the state to conduct such work.

SECTION 4

PERSONAL PROTECTIVE EQUIPMENT

This section discusses the personal protective equipment (PPE) that shall be worn during operations where regulated NORM materials on wastes are present. The level of personal protection required for worker protection shall be determined by the potential risk for contamination of the worker. If no contact with unsealed NORM contaminated materials, wastes and/or soil is possible and there is not risk of airborne contamination, no additional personal protective equipment above what is normally required for the operation the worker is performing is required.

4.1 NORM - Level 1

In addition to the normal PPE required for the operation, a worker may be required to the following PPE when working in an area or performing an operation requiring NORM - Level 1 protection:

- Safety glasses with safety shields
- Hard hat
- Rubber steel toed footwear or disposable shoe covers
- Impermeable gloves (latex, rubber, etc.)

NORM - Level 1 PPE shall be worn in the following situations:

- When the worker is performing operations which will disturb NORM contaminated soil.
- When handling and/or performing maintenance on NORM contaminated equipment or containers where contact with loose contaminated materials is possible.

4.2 NORM - Level 2

In addition to the PPE required in Section 4.1, the worker shall wear disposable coveralls or slicker suits when NORM - Level 2 worker protection is required. Long sleeve coveralls may be worn at facilities where approved clothing decontamination facilities are available:

NORM - Level 2 PPE shall be worn in the following situations.

- When handling loose NORM contaminated wastes or materials.
- When performing maintenance on equipment where loose NORM waste is generated.
- When performing operations where NORM contaminated soil is excavated.

4.3 NORM - Level 3

In addition to the PPE required for NORM - Level 2, NORM - Level 3 requires respiratory protection. Personnel shall use respiratory protection during all operations where NORM airborne contamination levels could exceed 25% of the Maximum Permissible Concentration (MPC) for unknown mixtures of airborne alpha matters as defined in LAC 33; Part XV, Chapter 14.

Minimum respiratory protection shall be a half mask High Efficiency Particulate Respirators (HEPA) when airborne contamination exists. HEPA respirators shall not be for use in atmospheres immediately dangerous to life and health and not for use in atmospheres containing less than 19.5% of oxygen. In the event that operations shall involve vessel entry or entry into a confined space, the worker shall use a positive pressure self-contained breathing apparatus (SCRA) or an airline respirator with air cylinder cascades or other approved air supply.

SECTION 5

PERSONNEL MONITORING

To protect the health and safety of personnel who work in or around NORM restricted areas, personnel monitoring shall be provided. Personnel monitoring shall include exposure and contamination monitoring and/or air sampling, as required.

5.1 Exposure Monitoring

1. Personnel who routinely work in NORM restricted areas, as defined in Section 2.7.1 shall be monitored for radiation exposure by using Thermo Luminescent Dosimetry (TLD) Badges.

2. The location of the badge shall be worn between the waist and the neckline on workers.

3. The frequency of exchange shall be on a quarterly basis. Female employees shall have the option to have the badges monitored on a monthly basis.

4. Records of radiation exposure shall be maintained indefinitely and provided upon request.

5. TLD badges shall be worn at work only.

6. Care should be taken to protect and maintain the badge. It should not be submerged in water, sludge, or distorted in any way or subjected to high temperatures.

7. TLD badges are not to be worn by different individuals during the period of issuance by the monitoring company.

8. Unassigned and control TLD badges shall be controlled and stored in a controlled area away from all sources of radioactive materials or devices.

9. Lost or damaged badges shall be reported to the facility supervisor immediately and a replacement provided, as soon as possible.

5.2 Air Sampling

1. Air sampling shall be conducted to evaluate potential worker exposure or environmental impact when necessary. Air sampling equipment shall meet the specifications described in *Section 10.5.1.*

2. Testing of air samples filters shall be done by an approved third party laboratory that can comply with the Environmental Protection Agencies criteria for radiochemistry laboratories. The filters shall be analyzed for gross alpha/beta and results reported in µCi/ml or equivalent units. The air sample filters should be returned to Premier.

5.3 Contamination Monitoring

Personnel contamination monitoring shall be performed before a worker leaves a NORM restricted area or when a worker has been in contact with loose NORM contaminated wastes or materials. Personnel contamination monitoring shall be performed using a properly calibrated survey meter with a Ludlum 44-9 pancake probe or equivalent. The whole body of the worker shall be frisked, including hand, soles of feet, hair and clothing. Noticeable readings above background shall be considered contamination and the worker and/or clothing shall be decontaminated to background levels before leaving the area.

SECTION 6

ENVIRONMENTAL MONITORING

Environmental monitoring and engineering controls shall be established for operations involving NORM contaminated materials, land, and equipment to protect the workers, the general public, and the environment. This section establishes minimal environmental monitoring and engineering controls to be performed for Premier operations.

6.1 Soil

All reasonable precautions shall be taken to prevent the NORM contamination of soil or land. This includes precautions to prevent the spread or increase of NORM-contamination in areas already contaminated. The following procedures shall be performed for NORM operations.

1. Controls shall be established to prevent soil contamination and/or the spread of NORM contaminated soil or materials by providing adequate ground protection and spill control procedures.

2. Area surveys using survey meters described in Section 10.1 shall be performed to confirm no new NORM contamination to the area from operations involving NORM. Soil samples shall be collected for analysis if any hot spots are detected.

3. Soil samples shall he analyzed for Radium-226 and Radium-228 by a radiochemistry laboratory capable of meeting respective EPA criteria. Soil results shall be reported in pCi/gm or equivalent units.

6.2 Water

1. Water which is contaminated in processing, cleaning, or decontamination operations involving NORM material shall be collected and injected in to the disposal well.

2. Any contaminated water from spill containment areas used to store NORM wastes shall be collected and injected into the disposal well.

3. Water samples shall be analyzed for total radium content by a radiochemistry laboratory capable of meeting respective EPA criteria. Water sample results shall be recorded in

microcuries per milliliter. Premier shall not release any water to the environment prior to receiving the results of the water analyses and determining that the results are below the Maximum Permissible Concentration (MPC) as specified in LAC 33; Part XV, Chapter 14.

6.3 Air

1. In areas or during operations where airborne NORM contaminated dust or particles encountered exceed 25% of the Maximum Permissible Concentration (MPC) for unknown mixtures of airborne alpha matters as defined in LAC 33; Part XV, Chapter 14. Air samples shall be collected using constant high volume samplers (as specified in Section 10.5.1). The frequency and duration shall be dependent upon the particular operation being performed. However, at least one air sample shall be collected during peak activity for one full shift or the duration of the operation if performed in less than one shift.

2. Air samples shall be collected down wind to **any** operation being performed whereby airborne NORM contaminated dust or particles are suspect to exceed 25% of the Maximum Permissible Concentration for unknown mixtures of airborne alpha matters and any operation where uncontainerized NORM solids are being processed or offloaded.

3. Air sample filter papers shall be analyzed for gross alpha/beta radioactivity by a radiochemistry laboratory capable of meeting respective Environmental Protection Agency criteria. Air sample results shall be recorded in microcuries per milliliter of air sampled.

4. Radon levels shall be monitored using radon-sampling canisters or alpha track radon detectors in all buildings or closed-in areas in which NORM contaminated materials or equipment are stored. Any short or long term test illustrating 4 pCi/l or greater will initiate corrective action. Corrective action will include the restriction of access to persons who smoke and minimize access to the area to all other personnel until the less than 4 pCi/l is measured.

5. Buildings and closed-in areas which contain NORM contaminated materials or equipment shall be properly ventilated to allow the exchange of indoor/outdoor air.

6. Personnel shall use respiratory protection during all operations in restricted areas where airborne contamination levels could exceed 25% of the Maximum Permissible Concentration (MPC) for unknown mixtures of airborne alpha matters as defined in LAC 33; Part XV, Chapter 14.

SECTION 7

STANDARD WORK PRACTICES

External radiation exposure is typically below levels of concern during normal operating conditions in non-restricted areas at the facility. Consequently, no changes to normal work procedures are required. However, during injection activities, equipment maintenance, equipment handling and repair, or vessel entry, employees may have direct physical contact with NORM contaminated sand, scale, sludge and/or wastes.

7.1 Working with NORM Contaminated Equipment and Materials

The following procedures should be followed when working with NORM contaminated soil, equipment and materials:

1. Employees and contractors shall be advised of the presence of NORM and of the procedures to minimize exposure. Posting of signs and notices pursuant to LAC 33; Part XV, Subchapter G shall be implemented to inform personnel they are entering a NORM contaminated area.

2. Eating, drinking, smoking, chewing or applying cosmetics shall not be allowed in the immediate work area where NORM-contaminated equipment or soil are being handled.

3. If possible, openings on NORM-contaminated equipment should be capped, sealed, or wrapped in plastic.

4. Adequate controls shall be taken when moving, handling, or transporting tubulars or other open equipment that has been identified as NORM-contaminated to eliminate or control the escape of NORM materials.

5. Personnel shall wear appropriate personnel protective equipment as specified in Section D.

6. During operations involving unsealed NORM contaminated equipment, soil and/or wastes, dust generation should be minimized by keeping the contaminated materials damp.

7. If work required on NORM contaminated equipment, soil and/or wastes generates airborne particulates, personnel must wear an approved respirator for radio nuclides in addition to protective clothing. This applies even if the material is wet. Such work may include cutting, grinding, drilling, polishing or welding. At minimum, the approved respiratory protection should consist of a half-face piece respirator with High Efficiency Particulate (HEPA) rated cartridges approved for radio nuclide dust. These cartridges have a magenta or hot pink color code. Full-face piece as well as supplied-air respirators are other options.

8. Temporary plastic ground covers should be used when or where possible to contain any displaced NORM contamination and to facilitate cleanup when work such as cutting, grinding, or drilling is performed on NORM-contaminated equipment. Concrete paving should be considered wherever repetitive cleaning is done.

9. After working on contaminated equipment, personnel shall wash their hands and face before eating, drinking, smoking, chewing or applying cosmetics to prevent any possible ingestion of NORM-contaminated material.

10. Personnel shall be monitored for potential contamination before leaving a NORM restricted area or before leaving a NORM facility if contact with loose NORM wastes or materials has occurred.

11. Procedures shall be established to minimize the number of personnel and personnel exposure during operations in a contaminated area.

7.2 Vessel Entry Procedures

The following vessel entry procedures are recommended for NORM contaminated vessels:

1. Ventilate the vessel. In addition to eliminating most hydrocarbon vapors, this shall also remove any radon that the NORM deposits may have generated. The ventilation period should be at least four hours to allow for the decay of short-lived radon daughters to insignificant levels.

2. During initial vessel entry, for cleaning or inspection, for the use of a self-contained breathing apparatus, supplied air respirator with air cylinder cascades or other approved air supply shall be used as necessary.

   NOTE: Most survey meter instruments are not intrinsically safe. There is some potential for sparking when detector cables are connected or disconnected, or when switches are turned on or off. Where explosive atmospheres may be encountered, explosive gas measurements should be made prior to the radiation survey.

3. Recommend personal protective equipment should include latex rubber or neoprene gloves, rubber work boots, rubber slicker suits or impermeable disposable paper suits, and a respirator.

4. Personnel radiation and contamination exposures associated with vessel entry shall be evaluated. This evaluation may include radiation levels, air sampling, and waste/material analysis.

5. All contaminated equipment shall be cleaned in a designated area. Contaminated gloves, respirators, coveralls, boots, cleaning rags, and tools should be decontaminated by rinsing off with soapy water or laundered. If decontamination is not possible, the material should be placed in double bags, sealed and held for proper disposal with other NORM waste. No contaminated equipment or materials should leave the facility.

6. Employees must observe good personal hygiene and shall wash their hands and face before eating, drinking, smoking, chewing, or applying cosmetics to prevent any possible ingestion of NORM-contaminated material.

7.3 Decontamination Procedures for Spills

The following are procedures that shall be followed in the event of a release or spill of NORM contaminated materials:

1. In the event of an accidental spill or release, the personnel involved shall contact the facility supervisor.

2. Medical care shall be given to any injured personnel.

3. Remove and detain all persons from the immediate area and secure the area from access of unauthorized personnel. Check personnel for contamination. If contamination is found, have contaminated persons wash down immediately and change clothing. Segregate all contaminated clothing and materials and place in plastic bags until they can be properly stored.

4. The supervisor shall contact the appropriate personnel listed in Section 9.1

5. Restricted areas shall be roped off with yellow ribbon or rope and signs shall be posted around the NORM contaminated areas as follows: "CAUTION RADIOACTIVE MATERIAL--. ~'CAUTION RADIATION AREAS signs shall be posted if any individual could receive doses greater than 5 merems in any one hour or 100 merems if any five consecutive days.

6. All personal protection equipment called for in Section 4 shall be used in the clean up.

7. Steps shall be taken to control or stop the release of NORM materials and to prevent the discharge of NORM materials to streams, waterways, or sewer systems.

8. All NORM contaminated material shall be cleaned and placed in approved containers. These containers shall be placed in approved storage areas.

9. The cleanup shall continue until an acceptable level is achieved. An acceptable level is defined as the reduction of contamination levels as low as reasonably achievable below regulatory levels or background, whichever is higher. See Section 2 for survey and sampling procedures.

SECTION 8

TRANSPORTATION

Premier Environmental, LLC will not be transporting licensed material outside the site of usage as illustrated in their LDEQ license.

The Department of Transportation (DOT) regulates the transportation of hazardous materials affecting interstate commerce through its regulations. Interstate transportation of hazardous materials is regulated by state agencies, which generally enforce the federal regulations. The state regulatory agency is usually the Department of Public Safety, the Department of Transportation, or the Department of Motor Vehicles.

Since radioactive materials are listed in the DOT's Hazardous Materials Tables, their transportation is regulated. The majority of oilfield NORM wastes and materials do not have specific activities greater than DOT limits and are exempt from radioactive material regulations. However, this should be confirmed with analytical data or other substantiated measurements before shipping. Even though the material may have a specific activity less than DOT limits, it must be shipped per any other applicable DOT regulations or state radiation regulations. In Louisiana, if the container contains NORM materials with a specific activity greater than 30 pCi/gm or equipment surface radiation levels are greater than 50 μR/hr over background, it must be packaged, marked and/or labeled per LAC 33; Part XV, Chapters 14 and 15 and must be manifested.

All shipments of regulated NORM materials and/or contaminated equipment shall be transported in compliance with DOT or LIR regulations. Contact the Premier office if unsure of proper shipping procedures before transporting any NORM materials or contaminated equipment.

8.1 Non-DOT Regulated NORM Less Than 2000 pCi/gm)

Most NORM materials will not be regulated by DOT regulations for radioactive materials, but they still may have to meet other state and federal regulations if they are considered licensed materials. The following procedures should be used for shipping non-DOT regulated NORM materials.

8.1.1 Packing

1. Small and loose NORM contaminated materials (bulk scale, sludge, soil, decontamination materials, etc.) shall be placed in strong, tight packages, such as DOT-1JH drums or the equivalent, so that there shall be no leakage of radioactive materials.

2. Seal all openings of NORM contaminated equipment to prevent possible leakage of radioactive materials. Tubulars shall be sealed with thread protectors or other suitable materials. All openings of contaminated surface equipment must be sealed with plugs, blanks, or other suitable materials. All caps, plugs, seals, and blanks shall be constructed and attached such that they shall not be damaged during handling or transportation and are weather tight.

3. The exterior of all waste drums or NORM contaminated equipment shall be cleaned prior to shipment to ensure that no removable surface contamination is present on the packages.

4. Ensure that there is no loose radioactive material, scale, sludge, etc. in the truck before and after loading an unloading. Brace and/or tie down equipment and containers to prevent shifting or damage.

5. Only trained Premier contractor personnel shall load or unload NORM waste shipments.

8.1.2 Labeling

1. Each package or piece of equipment shall be marked or labeled with appropriate warnings to communicate potential NORM hazards. A load of properly chained NORM contaminated tubing may be considered a single package.

2. Each container or package should be marked with the maximum surface dose rate in millirems per hour (mrem/hr) and labeled per LAC 33; Part XV.453, if applicable.

8.1.3 Shipping Papers

1. A shipping paper and/or bill of lading shall accompany the NORM shipment which shall identify the materials as containing NORM, the container or package identification code, the amount of NORM being transported, the surface dose rates in millirems/hour, the consignee and consignor, and emergency response information.

2. All shipments within Louisiana must also be accompanied with a properly completed Louisiana NORM Waste Manifest form (RPD-37). See Section 8.3 for information on this form.

8.2 Radioactive - Low Specific Activity (LSA)

For purposes of transportation, NORM materials having a specific activity greater than 2,000 pCi/gm are regulated under the DOT Hazardous Materials Regulations 49 CFR 171-178. Since it is highly unlikely that oilfield NORM materials would ever have a specific activity greater than 100,000 pCi/gm, only transportation of radioactive materials classified as Low Specified Activity (LSA) shall be discussed. The manner in which the materials are to be shipped shall determine the labeling, packaging, and placarding requirements. Since shipment of LSA materials by non-exclusive use carriers requires DOT Specification 7A (49 CFR § 178.350) Type A packaging and certification, NORM LSA materials should be shipped by "exclusive use" conveyance. For this reason, only the transportation of LSA materials by exclusive use conveyance is discussed. Exclusive use conveyance means the sole use of a conveyance by a single consignor and for which all initial, intermediate, and final loading are carried out in accordance with the direction of the consignor or consignee. Any loading or unloading must be performed by personnel having radiological training and resources appropriate for safe handling of the consignment. Specific instructions for maintenance of exclusive use shipment controls must be issued in writing and included with the shipping paper information provided to the carrier by the consignor (49 CFR § 173.403).

Shipments of LSA NORM waste shall be transported under the exclusive use provisions of 49 CFR 173.441 and the following guidelines:

8.2.1 Packaging

1. Small and loose NORM contaminated materials (bulk scale, sludge, soil, decontamination materials, etc.) shall be placed in strong, tight packages, such as DOT-71H drums or the equivalent, so that there shall be no leakage of radioactive materials under conditions normally incident to transportation.

2. Seal all openings of NORM contaminated equipment to prevent possible leakage of radioactive materials. Tubulars shall be sealed with thread protectors or other suitable materials. All openings of contaminated surface equipment must be sealed with plugs, blanks, or other suitable materials. All caps, plugs, seals, and blanks shall be constructed and attached such that they shall not be damaged during handling or transportation and are weather tight.

3. The exterior of all waste drums or NORM contaminated equipment shall be cleaned prior to shipment to ensure that no removable surface contamination is present on the packages.

4. Ensure that there is no loose radioactive material, scale, sludge, etc. in the truck before and after loading and unloading. Brace and/or tie down equipment and containers to prevent shifting or damage.

5. Only trained Premier contractor personnel shall load or unload NORM waste shipments.

6. Packages (containers) and/or NORM contaminated equipment shall not have any significant removable surface contamination as per (49 CFR §173.443). The activity, determined by a wipe sample taken over 300 cm^2, cannot exceed 2.2 disintegrations per minute (dpm)/cm^2 for alpha and 22 dpm/cm^2 for beta/gamma at the beginning of transport. During or after transport, removable contamination shall not exceed ten times these levels.

7. External radiation levels for each package or piece of equipment must be below 200 millirems per hour (mrem/hr) at any accessible external surface and below 10 mrem/hr at a distance of one meter from the package of piece of equipment to comply with 40 CFR §173.441.

8.2.2 Labeling

1. Each package or piece of equipment shall be marked or labeled with appropriate warnings to communicate potential NORM hazards. A load of properly chained NORM contaminated tubing may be considered a single package.

2. Each container or package should be marked with the maximum surface dose rate in millirems per hours (mrem/hr).

3. The exterior of each package must be stenciled or otherwise marked "Radioactive-ISA". Packages, with a capacity of 100 gallons or less, that contain a hazardous substance, must be stenciled or otherwise marked with the letters "RO" in association with the above description.

4. All packages containing LSA materials shall be labeled with the appropriate completed DOT radiation labels based on the packages maximum dose rates on the surface and one meter (3 feet) from the package surface. Two DOT radiation labels, placed on opposite sides, must be attached to the packages.

The criteria for determining which radioactive material label is to be used is determined by the maximum radiation does rate in mrem/hr at the surface of the package and one meter (3.3 feet) from the package. The maximum radiation dose rate in mrem/hr at one meter from the package is known as the transport index. The following table can be used to determine the proper level category:

Required Radiation Levels

Label Category	Maximum Radiation Level at Surface of Package (RL) (mrem/hr)		Transport Index (TI) (mrem/hr)
RADIOACTIVE WHITE – I	RL $\leq$ 0.5		N/a
RADIOACTIVE YELLOW – II	0.5 < RL $\leq$ 50	and	TI $\leq$ 1.0
RADIOACTIVE YELLOW – III	RL > 50	or	TI > 1.0

8.2.3 Shipping Papers

1. Shipping papers must include the consignee and consignor, proper shipping name, hazard class, U.N. identification number, quantity, reportable quantity designation, each radionuclide, chemical, and physical description, activity in each package, category of label applied, shipper certification and emergency response information. This information typically is part of the hazardous material bill of lading (49 CER § 172.202 and 172.203).

2. Typically the shipping papers/bill of lading description should read: RQ, Radioactive Materials, Low Specific Activity (LSA), n.o.s.-UN 2912, number of drums or total weight, major radioactive isotopes (Ra 226/228), solid, number of microcuries, type of label on containers (Radioactive White I or Yellow II or III), and the transport index (if the material is Radioactive Yellow II or III).

3. All shipments within Louisiana must also be accompanied with a properly completed Louisiana NORM Waste Manifest form (RPD-37). See Section 8.3 for information on this form.

4. Specific instructions for maintenance of exclusive use shipment controls are to be provided by the shipper to the carrier. Such instructions must be included with the shipping paper information.

5. A Material Safety Data Sheet (MSDS) or equivalent document providing emergency response information with a 24-hour emergency telephone number shall be included with the shipping papers.

6. A completed vehicle survey shall be included with the shipping papers. Complete this survey once the vehicle has been loaded. Record dosimeter readings taken at 3-toot intervals along the exterior sides of the cargo compartment and from within the driver's compartment.

8.3 Louisiana NORM Waste Manifest

The transportation of NORM waste or contaminated equipment to an off-site location requires the use of a NORM Waste Manifest (RPD-37) with each shipment. The LDEQ Emergency and Radiological Services Division recognizes a NORM contaminated piece of equipment which does not meet the exemption criteria in LAC 33:XV.1401, as a container of NORM waste and therefore, subject to manifest requirements. Inter-company movement of NORM waste or of non-exempt NORM contaminated equipment is not exempt from manifest requirements. The transportation of laboratory samples for radiological analysis shall not require the use of a manifest.

8.3.1 Manifest Instructions

The LDEQ-ERSD requires completion of all information on a manifest. All generators are responsible under LAC 33, Part XV for the proper identification, manifesting, and ultimate disposal of all NORM they generate.

The NORM waste manifest consists of six copies;

Copy 1	Designated Facility to Louisiana Radiation Protection Division
Copy 2	Designated Facility to Generator
Copy 3	Designated Facility to Retains
Copy 4	Transporter 2
Copy 5	Transporter 1
Copy 6	Generator

Item 1	Enter the total number of pages used to complete this manifest, the first page (RPD-37) plus the number.
Item 2	Enter the Generator's NORM facility seven digit ID# (NORM is to be tracked facility specific) and the unique three (3) digit number assigned to this manifest (e.g., 001) by the generator.
Item 3	Enter the Generator's name and mailing address.
Item 4,7,10 13,16	Provide the phone number where an authorized agent of your firm may be reached in the event of an emergency.
Item 5	Enter the generator's LRPD 9 digit general license #.
Item 6 & 8	Enter the company name, and 6 digit ICC# of the first transporter.
Item 9 & 11	Enter the company name, and 6 digit ICC# of the second transporter.
Item 12 & 14	Enter the company name and mailing address and the LRPD 9 digit specific license
Item 15	If generator has approval from the LDEQ-ERSD (e.g.. NORM waste management plan) to relocate NORM waste, or contaminated equipment to another location other than a commercial licensed facility, enter the facility name, location, and phone number.
Item 17	Enter the description of NORM.
Item 18	Enter the exposure radiation reading (micro roentgen per hour) taken on the described NORM.
Item 19	Enter the number of NORM containers to be transported.

Item 20 Enter the type of container derived from the list below:

DM - Metal drums, Barrels, Kegs
DF – Fiberboard or Plastic Drums, Barrels, Kegs
TT – Cargo Tanks (Tank Trucks)
DT – Dump Truck
CM – Metal Boxes, Cartons Cases (Incs. Rolloffs)
BA – Burlap, Cloth, Paper or Plastic Bags
PT – Production Pipe, Tubulars
DW – Wooden Drums, Barrels, Kegs
TP 0- Tanks Portable
TC – Tank Cars
CY – Cylinders
CW – Wooden Boxes, Cartons, Cases
CF – Fiber or Plastic Boxes, Cartons, Cases
PE – Production Equipment (i.e. Heater Treater, Desalter)

Item 21 Enter the total quantity of NORM described on each line.

Item 22 Enter the appropriate abbreviation for the unit of measure indicated below;
G - gallons (liquid only), P - pounds, T - tons (2000 lbs), Y - cubic yards

Item 23 Generators should use this space to indicate special transportation, treatment, storage, or disposal information or bill of lading information.

Item 24 The generator must read, sign (by hand), and date the certification statement.

Item 25 Enter the name of the person accepting the NORM on behalf of the first transporter. That person must acknowledge acceptance of the NORM described on the manifest by signing and entering the date of receipt.

Item 26 Enter, if applicable, the name of the person accepting the waste on behalf of the second transporter. That person must acknowledge acceptance of NORM described on the manifest by signing and entering the date of receipt.

Item 27 Enter the name of the person accepting the waste on behalf of the owner/operator of the designated facility. The date if the date of signature and receipt of shipment.

Mailing: LDEQ Emergency and Radiological Services Division
P.O. Box 4313
Baton Rouge, LA 70821-4313

8.3.2 Manifest Flow

A. Generator obtains manifests from the LDEQ ERSD to transport NORM waste or contaminated equipment from a general licensed facility.

   1. Generator completes generator information on the manifest either at the general licensed facility or at the headquarters office where it is forwarded to the general licensed facility.

B. Transporter #1 arrives at the general licensed facility.

   1. NORM is loaded upon transporter #1's vehicle.
   2. Transporter #1 representative and generator representative sign in respective places on the manifest.
   3. Generator retains Copy 36 (gold) of the manifest and gives the remaining copies to transporter #1.
   4. Transporter #1 departs from the facility and proceeds to meet transporter #2 at the predetermined location.

C. Transporter #1 arrives at predetermined location and meets with transporter #2.

   1. NORM is unloaded off the transporter #1 and loaded onto transporter #2's vehicle.
   2. Transporter #1 has transporter #2 sign the manifest in the respective place and then retains Copy #5 (pink). The remaining copies are given to transporter #2.
   3. Transporter #2 departs and proceeds to the designated facility

D. Transporter #2 arrives at the designated facility.

   1. Transporter #2 unloads the NORM at the designated facility.
   2. The designated facility signs the manifest at the respective place and gives Copy #4 (yellow) to transporter #2.
   3. The remaining copies of the manifest are retained by the designated facility.
   4. Transporter #2 departs from the designated facility.

E. The designated facility distributes the remaining copies of the manifest to respective parties.

   1. Copy #4 (green) is retained by the designated facility for its files.
   2. Copy #2 (blue) is mailed to the generator.
   3. Copy #1 (white) is mailed to the Radiation Protection Division.

SECTION 9

EMERGENCY PROCEDURES

9.1 Notification

In the event of an unusual occurrence or emergency such as a serious accident, fire, explosion, or uncontrolled spill or release of NORM contaminated materials or wastes at a NORM site, immediate notification shall be made to:

1. The immediate Premier supervisor or facility manager with NORM oversight responsibilities.

2. In the event the Premier supervisor or facility manager cannot be reached, the alternate Premier employee shall be notified.

Depending on the type and severity of the unusual occurrence, accident, or emergency, the following persons shall be contacted:

1. Name _____ Company_____
   Work _____ Title _____
   Home _____

   Name _____ Company_____
   Work _____ Title _____
   Home _____

   Name _____ Company_____
   Work _____ Title _____
   Home _____

   Name _____ Company_____
   Work _____ Title _____
   Home _____

   Name _____ Company_____
   Work _____ Title _____
   Home _____

   Name _____ Company_____
   Work _____ Title _____
   Home _____

   Name _____ Company_____
   Work _____ Title _____
   Home _____

   Name _____ Company_____
   Work _____ Title _____
   Home _____

C:\Documents and Settings\John Smith\Desktop\Documents\Premier Work Procedures and Waste Sheet Plan.doc

2. Department of Environmental Quality
Emergency and Radiological Services Division
P.O. Box 4313
Baton Rouge, LA 70821-4313

3. In the event of a police department, ambulance, fire department, etc. are needed dial 911.

4. Immediate actions shall be taken to prevent contamination of personnel, equipment, and facilities using the procedures outlined in Sections 4.0 and L0.

9.2 Emergency Operating Procedures

The following procedures shall be performed in the event of an emergency involving NORM contaminated soil, materials, equipment, or wastes.

1. If an accident or emergency involves a person trapped within an exposure area, judge the situation, and take the appropriate rescue action. Rescue shall be the primary concern, but all practical precautions shall be taken to minimize exposure to other personnel.

2. Restrict any area which might be contaminated. Keep the public away. Restricted areas shall be roped off with yellow ribbon or rope and signs shall be posted around the NORM contaminated areas as follows: "Caution Radioactive Material". "Caution Radiation Area" signs shall be posted if required per LAC 33; Part XV, Subpart G.

   Segregate and retain all persons who may have been exposed. Retain the names, addresses, and telephone numbers of all persons who may have been exposed. If there is a possibility that clothing or skin may have been contaminated, have the person's shower and change clothes as quickly as possible. Do not allow any person who may have been contaminated to eat, drink, or smoke until they have showered and changed clothes.

3. Remove any injured person to a transfer point away from the contaminated area. Be sure the attending physician knows that radioactive contaminated might be involved in the accident.

4. In fighting a fire, treat the fumes as toxic material, and fight from the upwind side. All suspected materials should be carefully monitored for radioactive contamination before being returned to normal service.

6. If a vehicle is involved in an accident, evaluate the extent of a possible release of radioactive material as promptly as possible, while routing traffic around the area that may be contaminated. Keep the public away.

7. Do not allow any person to eat, drink or smoke in an area that might be contaminated, or use any food or water that may have been contaminated.

8. Handle all emergencies that require immediate action. Make sure the area is secured.

9. Appropriate personal protection equipment called for in Section 4.0 shall be used by all personnel involved with the clean up or in NORM restricted areas.

10. Steps shall be taken to control to stop the release of NORM materials and to prevent the discharge of NORM materials into streams, waterways, or sewer systems.

11. All NORM contaminated materials and equipment shall be cleaned and placed in approved containers. These containers shall be placed in an approved NORM storage area.

12. The cleanup shall be conducted by trained and authorized personnel using the procedures outlined in Section 7.3 or other LDEQ approved procedures.

13. Once the area is excavated, seal it off to allow only trained, properly protected, and unauthorized personnel to enter the restricted area. Turn over control only to property identified authorities and assist where possible,

Again, immediate notification of Premier management is crucial in an emergency.

SECTION 10

INSTRUMENTATION

This section discusses the equipment specifications for survey meters, air samplers, and radon detectors that shall be used by Premier.

10.1 Survey Meters with Scintillation Detectors

Survey meters with at least 1" x 1" NaI scintillation detectors shall be used for determining exposure levels from NORM materials. All scintillation detectors used shall be capable of measuring 1 μR/hr and demonstrate accuracy within ± 20 percent of the true radiation level on each scale. All radiation levels shall be reported in μR/hr or equivalent units.

The following meters shall be acceptable for determining radiation levels from NORM:

1. Ludlum Model 19
2. Ludlum Model 2, 3, and 18 with 44-9 probe
3. Ludlum Model 3-97 using interval detector

10.2 Survey Meters with Pancake Probes

A survey meter with a pancake G-M detector capable of detecting alpha/beta particles and gamma rays with a lower limit of detection of Radium 226 of at least 500 disintegrations per minute shall be used for external surface or personnel contamination surveys. All readings shall be recorded in counts per minute (CCPM) or equivalent units. Generally, the pancake probe is used to detect external contamination levels above background. Any readings more than statistical background levels shall be assumed the result of contamination and investigated further.

The following survey meters and probes shall be acceptable for contamination survey purposes.

1. Ludlum Model 2. 3, 18 with 44-9 pancake probe.
2. Ludlum Model 3-97 modified for use with a 44-9 pancake probe.

10.3 Operating Procedures for Survey Meters

The following operating procedures shall be followed when using the survey meters described in Section 10.1 or 10.2:

1. Each day the survey meters are used, the following operational checks should be made:

    - Inspect survey meter, probes, and cables for damage or wear.
    - Check background level in an area known not to have NORM contamination and verify that reading is normal. Background should be between 4 to 10 μR/hr for most of Louisiana. If not, determine reason before using meter.
    - Check detector response with a source that shall give a known reading. If the expected response level is not obtained, determine the reason before using meter.
    - Verify audio circuit is working by turning on and off.
    - Verify that "S" (slow) and "F" (fast) response circuit is working by checking meter response time and a check source. With meter in the "S's position it should take approximately 25 seconds for the meter to read full response from background. In "F" position, response time should be approximately 5 seconds.
    - Verify that meter responses appropriately at each scale position.
    - Document operational checks performed.

2. Protect survey meter and probe from potential contamination during use.

3. Do not store with batteries installed for more than 30 days, especially in temperatures above 100°F. Always use fresh alkaline batteries when using in temperatures below 32°F.

4. Clean survey meter, probes and cables and inspect for damage before storing after use.

5. Do not use any survey meter which is damaged or its response is suspect.

10.4 Calibration Procedures for Survey Meters

Each radiation survey instrument shall be calibrated:

1. At intervals not to exceed 6 months and after each instrument servicing.

2. At energies and radiation levels appropriate for use.

3. An accuracy within plus or minus 20 percent of the true radiation level shall be demonstrated on each scale.

4. Facility survey meter records must provide verification that:

   a) The facility has access to an adequate number of survey meters.

   b. The survey meters are calibrated at least once every 6 months and after any maintenance. Maintenance is defined as anything more serious than changing batteries.

Instruments can be sent to the following organizations for calibration services:

1. Amersham of Baton Rouge, LA
   (504) 751-5893

2. Ludlum of Sweetwater, TX
   (915) 235-4947

3. Suntrac Services of Houston, TX
   (713) 326-2346

10.5 Area Air Samples

Air monitoring shall be used to determine the level of airborne NORM contamination when required per 6.3. At a minimum, periodic monitoring shall be conducted where airborne contamination exists when:

1. Work begins on a different portion of the site;

2. New contaminants are handled; and

3. New operations are started.

4. There is a potential for radon levels to exceed regulated levels.

Employees in high-risk areas should have breathing zone monitors.

Premier shall provide and use the following instrumentation to collect area, breathing zone, and radon air samples when required.

10.5.1 Area Air Samples

Area air samples shall be collected using constant volume high volume samples meeting the following specifications:

- Minimum flow rate - 2 cubic feet per minute (CPM)
- Minimum filter size - 47 mm in diameter
- Calibrated within last twelve months
- Appropriate particulate filter material

Air samples shall be collected by personnel trained and familiar with equipment. A minimum sample volume of 60 cubic feet shall be collected. After completion of the sample, the filter paper shall be screened with a GM pancake probe before sealing in a protective envelope. The sample shall be sent to a radiochemistry laboratory meeting EPA criteria for analysis for gross alpha/beta. Analytical results shall be reported in pCi/L or equivalent units. The sample collection, equipment used, and analytical data shall be documented and records maintained for 5 years.

10.5.2 Breathing Zone Air Samplers

Premier does not plan to have employees or contractors exposed to conditions in which breathing zone air samplers would be needed. In situations in which airborne contamination risks are high, specific licensed contractors working under their own LDEQ approved procedures shall be used, if possible.

If breathing zone air monitoring is done by Premier, it shall typically be for routine monitoring only to confirm safe working levels. Breathing zone air sampling shall be done using low volume air samplers with the following specifications:

- Designed for personnel monitoring to collect breathing zone air samples.

- Minimum 37 mm diameter particulate filter.
- Sampling flow rate range from 0.5 to 2 liters per minute (1PM).
- Calibrated per the standard sampling method requirements.

Samples shall be collected for one full shift during an operation requiring sampling or for the duration of the operation is less than one shift. After completion, the filter paper shall be screened with a GM pancake probe before sealing in a protective envelope. The appropriate sample collection data shall be documented on a record form and the sample envelope. The sample shall be sent to a radiochemistry laboratory meeting EPA criteria for gross alpha/beta analysis. Analytical results shall be reported in pCi/L, µCi/ml or equivalent units. Sample collection and analytical data shall be documented and records maintained for 5 years.

10.5.3 Radon Sampling

Radon sampling shall be performed as needed using EPA accepted radon sampling canisters (short term sampling) or alpha track radon detectors (long term sampling), Samples shall be collected per manufacture's instructions and sent to a radiochemistry laboratory meeting EPA criteria for radon analysis. Sampling laboratory analytical data shall be documented and records maintained for 5 years. Analytical results shall be reported in pCi/L or equivalent units.

SECTION 11

TRAINING

No personnel shall be allowed to enter or work in a restricted NORM area unless properly trained or under the direct supervision of appropriate NORM trained personnel. All written exams shall be in the employee's training file for inspection. All training for employees and contractors shall be provided by LDEQ approved training courses.

Premier's training requirements for personnel who work in or around NORM licensed facilities or sites shall be as follows:

11.1 Basic NORM Training

Before entering a NORM restricted area or handling sealed NORM contaminated equipment unsupervised, personnel shall receive at least 4 hours of initial basic NORM training, and have passed a written exam documenting an acceptable level of understanding on the following topics:

- Fundamentals of Radiation Safety
- Radiation Detection Instrumentation
- Worker Protection and Operating Procedures
- Emergency Procedures

11.2 NORM Surveyor Training

Workers assisting with NORM surveys for LDEQ certification must be under direct supervision of personnel who have met all the training and qualification requirements specified in Appendix A of Chapter 14 of the Louisiana Radiation Regulations. Only personnel who have met these requirements may sign the certification statement for any NORM survey.

To meet the LDEQ requirements for NORM surveys, the worker shall have received an additional 4 hours of classroom and hands-on NORM surveyor training covering the following topics in addition to the 4 hours of Basic NORM training outlines in Section 11.1 and successfully passed a written exam:

- Survey techniques and equipment
- Survey documentation
- Sampling techniques and equipment
- Pertinent state regulations and guidelines

11.3 NORM Worker Training

For workers to handle NORM materials and wastes which are not sealed in a container or vessel without direct supervision, the worker shall have received an additional 4 hours of classroom and hands-on NORM worker training covering the following topics in addition to the 4 hours of Basic NORM Training outlines in Section 11.1 and successfully passed a written exam:

- Handling NORM materials and wastes
- NORM maintenance and decontamination procedures
- Respiratory protection
- Spill control and contingency planning

11.4 NORM Supervisor Training

In addition to basic NORM, NORM worker and NORM surveyor training, supervisors of NORM facilities shall have completed 4 hours of additional training covering the following topics:

- Licensing and regulations
- Operating and emergency procedures
- Environmental monitoring
- Transportation of NORM materials
- Record keeping and documentation

11.5 Other Training

OSHA 4 hour 29 CFR 1910.120 training shall be required for personnel working in operations involving hazardous wastes or where required by OSHA. Other additional training shall be provided as OSHA or other authorities may require for the operation being performed. Follow-up training shall be provided and documented as needed.

Certificates of training from other sources or organizations shall be accepted as proof of training provided that the training meets LDEQ and Premier standards. The worker must provide proof of successful completion.

SECTION 12

DOCUMENTATION/RECORD KEEPING

All Premier facilities shall maintain, for inspection, the records of documentation required by state and federal authorities. This section discusses the records and documents related to NORM, which should be maintained, and their applicable retention times. The records for each NORM facility or site shall be maintained at a designated facility for inspection by the LDEQ Emergency and Radiological Services Division.

11.6 Licensing Records and Posting

Each NORM general licensed facility and storage facility shall post DRC-3 "Notice to Employee' forms in a sufficient number of places to permit individuals at the facility to observe on the way to or from any particular work location to which the document applies. A notice must also be placed next to the DRC-3 which describes where the following documents may be examined:

- Certificate of NORM registration
- Chapters 4, 10, and 14 of LAC 33 Part XV
- Premier's NORM Worker Protection and Waste Management Plan
- Copies of any notices of violations or inspections by the ERSD

In addition to the posting of the DRC-3, a permanent sign shall be posted at the facility entrance with the following information:

- Generator name
- General license number
- NORM facility ID number
- Contact name and phone number of person who has access to NORM records

12.2 NORM Survey/Sampling Records

All data collected during a NORM survey, whether for confirmatory or release purposes, shall be properly documented and accurate records maintained. Though these documents should be maintained indefinitely, they must be available for inspection by ERSD for at least 5 years.

Examples of survey and sampling records that should be maintained:

- Confirmatory/release surveys
- Area surveys
- Equipment surveys
- Soil sampling records
- Air sampling records
- Waste sampling records (including water)
- Wipe test records

Laboratory analytical reports and associated chain-of-custody forms should be maintained together with the associated sample collection and/or survey report.

12.3 NORM Manifest/Shipping Papers

Upon the receipt of NORM waste or contaminated equipment at the facility, the general licensee shall use a NORM Waste Manifest (RPD-37) with each shipment. The ERSD recognizes a NORM contaminated piece of equipment which does not meet the exemption criteria in LAC 33:XV.1404, as a container of NORM waste and therefore, subject to manifest requirements. Inter-company movement of NORM waste or of non-exempted contaminated equipment is not exempt from manifest requirements. The transportation of laboratory samples for radiological analysis shall not require the use of a manifest. Manifest and associated shipping papers shall be maintained for inspection by ERSD for a period of 5 years. Manifests documenting disposal shall be maintained indefinitely.

Shipping papers that should be maintained with the NORM Waste Manifest, if applicable, are:

- Bill-of-lading
- Vehicle survey data sheets
- Package or vehicle wipe test records
- Records of any unusual occurrence or problems during transportation

12.4 NORM Storage Records

Premier shall maintain records documenting the type and amount of wastes or equipment stored, survey records, manifests, sampling analysis and other pertinent information. All storage and survey records shall be maintained for a minimum of 5 years for inspection by ERSD.

12.4.1 NORM Container Equipment Records

Records of NORM waste containers or out-of-service NORM contaminated equipment shall be maintained at the facility. Contaminated tubulars may be identified as one item provided that all joints are kept in one location and marked such that they can be identified from other groups of tubulars that may be on site. Typical information that should be maintained for these records are:

- General or specific license number
- NORM facility ID number
- Container/equipment identification number
- Type of container/equipment
- Type and quantity of NORM waste
- Date container/equipment received

- NORM Waste Manifest number, if applicable
- Maximum radiation levels
- Waste sample analytical data, if available
- Origin of NORM materials

12.4.2 NORM Storage Facility Records

If there is interim NORM waste storage at the facility for more than 90 days, the following records must be kept in addition to the records required in Section 12.4.1

- Environmental survey records
- Quarterly container inspection and inventory records
- Storage area radiation level records

12.5 Disposal Records

Disposal records of NORM contaminated wastes and equipment shall be complete and maintained indefinitely until the ERSD authorizes their disposition. Disposal records shall include any of the following records, if applicable:

- NORM waste manifests
- ERSD approved disposal plan
- ESD approved disposal permit
- Disposal procedure records
- Sample analysis
- Survey records

All records associated with the disposal of a NORM waste or NORM contaminated equipment should be kept in a single file for future reference or Inspection by ERSD.

12.6 Personnel Records

The following personnel records shall be maintained at the facility for employees who routinely work in NORM restricted areas:

- DRC-4 Occupational external radiation exposure history
- Radiation dosimetry reports
- Bioassay/whole body count records, if applicable
- Air sampling results
- Area radiation survey records if no personnel monitoring data
- Radiation training records

The exposure records shall be maintained indefinitely. Radiation training records shall be retained for the extent of employment or five years, whichever is longer.

12.7 Instrument Records

Calibration and maintenance records shall be maintained for all survey meters and air sampling instruments. The records shall be made available to ERSD for inspection for a period of 5 years.

The following records shall be maintained for survey meters and air samplers:

- Calibration certificates
- Maintenance records

SECTION 13

CONTRACTORS

No Premier contractor shall perform any operation which results in the generation of NORM waste without Premier authorization. Premier shall require contractors performing NORM decontamination and processing operations to have a NORM License and be authorized by the state to perform such operations. Contractors operating under their own specific license shall comply with the terms of their license and follow the operating procedures specified by their license.

Non-specific licensed general contractors shall comply and operate under Premier's procedures as specified in this Worker Protection and Waste Management Plan. To assure that these procedures are follows, Premier shall:

1. Review Premier's NORM worker protection and standard operating procedures with the contractor's representative and monitor contractor's work to insure that Premier's NORM work practices are being followed.

2. Inform the contractor's representative if Premier's NORM work practices are not being followed, and insure that corrections by the contractor are made to meet these requirements.

SECTION 14

NORM STORAGE

All NORM contaminated wastes, materials, and out-of-service equipment shall be stored in such a manner as to protect the public, workers, and the environment. NORM contaminated waste materials shall be stored in designated storage areas that are properly posted, secured, packaged, and labeled per LAC 33, Part XV. This section discusses Premier's procedures and policies for the storage of NORM contaminated waste, materials, and out-of service equipment.

14.1 Containers

1. Containers used to store non-exempt NORM contaminated materials or waste shall be made or lined with materials that shall not react with, or be incompatible with, the NORM waste to be stored, so that ability of the container to contain the waste is not impaired or compromised.

2. All containers holding NORM waste or materials shall be strong, tight, and in good condition. The container must be such that it shall not leak or release NORM waste into the environment during storage or normal handling.

3. A container of NORM waste shall always be closed during storage, except when it is necessary to add or remove waste.

4. A container holding NORM waste shall not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.

5. All containers shall be stacked in such a fashion that each container identification label can read from the access aisle or area. Labeling of containers shall be in compliance with LAC 33; Part XV, Subpart G.

6. Equipment and tubulars containing NORM wastes being stored for decontamination or disposal shall be sealed in such a manner as to prevent leaking or release of NORM waste into the environment. All openings shall be plugged, capped, or otherwise sealed in an appropriate manner to withstand normal handling, and exposure to the elements.

7. No container of NORM waste may be stored for more than 90 days unless approved for interim storage.

8. As part of the inspection program, Premier will inspect the condition of each tank containing NORM daily. The tanks will be inspected for leaks, cracks, corrosion, and erosion that may lead to cracks, leaks, or wall thinning.

14.2 Out-of-Service Equipment

1. Out-of-service equipment and tubulars containing NORM wastes or materials shall be sealed in such a manner as to prevent leaking or release of NORM waste into the environment. All openings shall be capped, plugged, or otherwise suitably sealed in an appropriate manner to withstand normal handling and exposure to the elements.

2. Equipment and tubulars shall not be opened, handled, or stored in a manner that may rupture the equipment or cause it to leak.

3. Equipment shall be properly marked or identified as containing NORM contaminated waste or materials. If required, equipment will be labeled in compliance with LAC 33; Part XV, Subpart G.

4. Out-of-service equipment which contains non-exempt levels of NORM waste or materials shall be placed back in service, decontaminated or disposed within 1 year after being removed from service unless an alternate plan is approved by LDEQ.

14.3 Storage at a General Licensed NORM Facility

1. Non-exempted NORM waste may be temporarily stored at a general licensed NORM facility provided the container and storage area meet federal and state regulatory requirements. The NORM waste must be disposed, transferred to a licensed storage facility or stored at a Premier interim storage facility within 90 days after the waste was generated and placed into a container.

2. Out-of-service equipment containing non-exempt levels of NORM shall be stored in designated storage areas meeting federal and state regulatory requirements.

3. The boundary of the storage area shall have a fence or barrier to prevent unintentional entry. The boundary shall be identified with signs at all entrances and sides, bearing the radiation tri-foil symbol (magenta blades on yellow background) and the words, "Caution - Radioactive Materials", If whole body radiation exposure at any point within the storage area could exceed 5 millirem in any one hour or 100 millirem for any 5 consecutive days, that area should be posted with a sign(s) containing the words "Caution - Radiation Area".

4. Radiation levels at the perimeter of the storage area shall not exceed 600 μR/hr. Radiation levels to the general public shall not exceed 100 millirem/year. To minimize radiation levels at the perimeter, material with higher radioactive levels should be stored near the center of the area.

5. Drums and containers containing NORM wastes not in over packs should have suitable containment to control leakage and spills. This contaminant should have a base that is free of cracks or gaps and is sufficiently impervious to contain leaks and spills. The base should be designed to drain and remove liquids unless the containers are elevated or otherwise protected from contact with accumulated liquids. All materials collected from containment areas or over packs must comply with applicable regulations before they can be discarded.

6. All containers shall be stacked such that each container identification and labeling can be read from the access aisle or area.

7. Applicable records of surveys, inventories, manifests, sampling analysis, employee training, and other pertinent information shall be maintained. A permanent sign which with the NORM facility ID number, the license number, company name, and name of contact person and phone number shall be conspicuously posted at the entrance of the facility indicating the location where the records may be found.

8. Any discrepancy in inventory or spill/leak of NORM materials shall be reported to the Premier facility supervisor immediately.

14.4 Worker Protection

1. No personnel shall enter a designated NORM storage area unless attired in the appropriate personal protection equipment (PPE) and properly trained or supervised by trained personnel. Minimum training requirements to enter a NORM storage area unsupervised are described in Section 11.1

2. No personnel shall handle unsealed equipment or containers containing NORM contaminated materials or wastes unsupervised unless he/she is wearing the appropriate PPE and has received the training specified in Section 11.3

3. Personnel leaving a designated NORM storage area after handling NORM wastes shall be checked for potential contamination using a survey meter with a Ludlum 44-9 pancake or equivalent probe. If any reading over statistical background is detected, the person shall be decontaminated and contaminated items placed in an appropriate container until they can be disposed or decontaminated before leaving the area.

4. Personnel shall follow the standard work practices described in Section 7.1 while in the storage area.

14.5 Emergency Procedures

The emergency procedures described in Section I shall be followed for any emergency involving a facility which stores NORM wastes or materials.

14.6 Interim Storage of NORM Wastes

An Interim storage facility for NORM contaminated wastes awaiting disposal is proposed at the existing site. Premier has selected this site for their interim storage facility for the following reasons:

- An interim storage facility at the existing site would minimize handling and transportation of the waste for storage and disposal.

14.6.1 Standard Operating Procedures

1. Only designated Premier employees shall accept NORM contaminated equipment or wastes for storage, or authorize their removal from the facility.

2. All containers containing NORM wastes or materials shall be:

   - Inspected for proper packaging or leaks before entering or leaving storage area, and inventory records updated.

   - Assigned and marked with a unique code or serial number for tracking and inventory.

   - Inventoried and inspected at least once per quarter.

3. Worker Protection Procedures described in Sections 7.0 and 14.4 shall be followed.

4. Storage area perimeters shall be posted and secured as described in Section 14.3.

5. Procedures for storage of containers and out-of-service equipment described in Sections 14.1 and 14.2 shall be observed.

6. Emergency operating procedures described in Section I shall be followed in the event of an emergency or spill.

7. Material with higher radiation levels shall be stored near the center of the storage area, if possible, to minimize perimeter radiation levels.

8. No unsealed containers or equipment containing NORM waste shall be handled without appropriate ground covers (minimum plastic sheeting). Any NORM wastes escaping from unsealed containers or equipment shall immediately be recovered and stored in sealed containers.

14.7 Monitoring

The following procedures shall be followed to monitor radiation levels and potential contamination at the site:

1. At least every 3 months radiation levels at the perimeter boundaries of the storage area shall be measured and documented with a survey meter meeting the specifications described in Section 10.1. Measurements shall be taken with the survey meter at least every 10 meters. If any reading is observed over 600 μR/hr at the perimeter of the fence, the Premier facility manager shall be notified.

2. An area grid survey of at least 10-meter spacing shall be performed and documented as per Section 2.2.1 of the storage area every 6 months. Soil samples shall be collected if the area survey indicates any new contamination and the samples shall be analyzed per Section 2.2.2.

3. Radon levels in the modified shipping containers used for NORM waste storage shall be measured and documented every 6 months with an alpha track radon detector.

14.8 Record Keeping

Records pertaining to the storage facility, surveys, inventories, manifests, sampling analysis, employee training and other pertinent information shall be maintained at the Premier facility office building. These records shall include:

1. Facility information including plot plan, NORM general license and facility I.D. numbers, names of contact persons and phone numbers, and emergency response numbers.

2. Copy of Worker Protection and NORM Waste Management Plans.

3. Employee Training Records including:

   - Date of training
   - Type of training
   - Source Training
   - Proof of satisfactory completion

4. Manifest records of NORM wastes and materials received or transferred from the facility including:

   - Shipping papers
   - NORM waste manifest, if applicable

5. Records of NORM waste or out-of-service equipment stored including:

   - Date received
   - Date transferred/disposed
   - Storage identification code
   - Type of waste

6. Inventory records including:

   - Date inventoried
   - Items inventoried
   - Discrepancy reports

7. Monitoring records including:

   - Perimeter survey
   - Grid surveys
   - Radon analysis
   - Soil analysis

SECTION 15

DISPOSAL

The general categories of NORM waste which will be disposed by Premier are loose NORM (scale, sludge, and contaminated soil), and water.

The method of disposal will be by deep well slurry fracture injection

15.1 Commercial Disposal Facilities

Commercially licensed NORM disposal facilities may be utilized at a later date as a disposal option for certain contaminated equipment or wastes. Also, should other new licensed NORM disposal facilities become available, their use will be investigated on a case-by-case basis.

SECTION 16.0

REFERENCES

Louisiana Department of Environmental Quality. Environmental Regulatory Code, Part XV. Radiation Protection. Baton Rouge, Louisiana.

Louisiana Department of Environmental Quality. Environmental Regulatory Code, Part XV, Chapter 14. Regulation and Licensing of NORM. Baton Rouge, Louisiana.

Louisiana Department of Environmental Quality. 1992b. "Implementation Manual for Management of NORM in Louisiana. Baton Rouge, Louisiana, June.

U.S. Department of Transportation. Code of Federal Regulations, Title 49, Parts 171, 172, 173, and 178. Washington, D.C., October.

STATE OF LOUISIANA
OFFICE OF CONSERVATION
BATON ROUGE, LOUISIANA

April 18, 2005

CONSERVATION ORDER NO. IMD 2005 - 01 CFA

Order approving the construction and operation of a commercial Class II slurry fracture injection well disposal facility in Plaquemines Parish by Premier Environmental, LLC, Operator Code P165, of Mandeville, Louisiana for subsurface disposal of exploration and production waste (E&P Waste) containing naturally occurring radioactive material (NORM)

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Pursuant to the power delegated under the laws of the State of Louisiana, and particularly Title 30 of the Louisiana Revised Statutes of 1950 as amended, and as implemented in rules and regulations promulgated by the Commissioner of Conservation, and after a public hearing conducted under Docket No. IMD 99 - 03 in Pointe a la Hache, Louisiana on March 23, 1999 and in Davant, Louisiana on January 4, 2005, following legal publication of notice, the following order is issued and promulgated by the Commissioner of Conservation as being reasonably necessary to carry out the provisions of the laws of this state.

FINDINGS

THE COMMISSIONER OF CONSERVATION FINDS AS FOLLOWS:

1) That notice of intent to file an application for a permit to construct and operate a commercial exploration and production waste (E&P Waste) disposal facility in Plaquemines Parish was given by Premier Environmental, LLC (Premier) of Mandeville, Louisiana in accordance with the provisions of LRS 30:4(I) and LAC 43:XIX.Subpart 1.Chapter 5, by publication in The Advocate, the official journal of the State of Louisiana, and the Plaquemines Gazette, the official journal of Plaquemines Parish.

2) That Premier, after thirty (30) day notice as required by LRS 30:4(I) and LAC 43:XIX.Subpart 1.Chapter 5, applied to the Office of Conservation for approval to construct and operate a commercial Class II slurry fracture injection well facility for subsurface disposal of E&P Waste containing NORM.

3) That, on March 23, 1999, a public hearing was conducted in Pointe a la Hache, Louisiana after public notice had been given by the Office of Conservation in the Louisiana Register on February 20, 1999, and in The Advocate, on February 19, 1999, and by Premier in the Plaquemines Gazette, on February 26, March 5, and March 12, 1999, all in accordance with the provisions of LRS 30:4(I) and LAC 43:XIX.Subpart 1.Chapter 5, as amended.

4) That in a letter dated December 28, 1999, the Office of Conservation determined that Premier would be required to amend the application upon promulgation of new regulations specific to Class II slurry fracture injection well disposal technology to comply with additional permitting requirements.

5) That, on November 20, 2001, the Office of Conservation promulgated new regulations under LAC 43:XIX.Subpart 1.Chapter 4 for Class II slurry fracture injection well disposal technology and amended the regulations of LAC 43:XIX.Subpart1.Chapter 5 for the off-site storage, treatment and/or disposal of E&P Waste.

6) That, on March 19, 2002, Premier submitted a revised permit application to the Office of Conservation for approval to construct and operate a commercial E&P Waste NORM Class II slurry fracture injection well disposal facility, hereafter referred to as the facility.

7) That, with correspondence dated December 20, 2002, the Office of Conservation notified Premier that the Area of Review (AOR) for the proposed location of the slurry fracture injection well extends into a Source Water Protection Area which is prohibited by LAC 43:XIX.433.G.1.

8) That, on January 8, 2003, Premier submitted a written request for an exception to the slurry fracture injection well sitting criteria under LAC 43:XIX.433.G.1 which prohibits the location of a slurry fracture injection well where a Source Water Protection Area is located within the proposed well's AOR.

9) That, with correspondence dated January 28, 2003, the Office of Conservation informed Premier that, prior to any further consideration of the request for an exception to the siting criteria of LAC 43:XIX.433.G.1 referenced in Finding number 8 herein, Premier must submit a complete application that adequately addresses all of the requirements of LAC 43:XIX.433 and Chapter 5, with particular emphasis on demonstrating compliance with injection and confining zone geologic criteria under LAC 43:XIX.433.E.4.

10) That, LAC 43:XIX.433.E.1 requires the proposed Confining Zone be "impermeable and laterally continuous throughout the injection well's AOR." Additionally, it is required that "the confining zone is to have a minimum thickness of 50 feet." An interpretation of available well control provided in the Premier application indicates that the shale bed, defined as the Confining Zone, ranges in thickness from an expected value of approximately 38 feet at the southwest edge of the AOR to an expected thickness of over 80 feet at the proposed well location. Available well control further indicates that the Confining Zone maintains a thickness of greater than 50 feet for a distance of over one mile within the 2-mile AOR of the proposed well location.

11) That, on November 8, 2004, the Office of Conservation deemed the Premier facility permit application complete in that it adequately addressed compliance with the applicable provisions of LAC 43:XIX.Subpart 1.Chapters 4 and 5 with reasonable exceptions considered for the AOR slurry fracture well sitting criteria of LAC 43:XIX.433.G.1 referenced in Finding numbers 7, 8 and 9 and Confining Zone AOR minimum thickness criteria of LAC 43:XIX.433.E.1 referenced in Finding number 10.

12) That, the facility and slurry fracture injection well, as proposed and pursuant to the permit application and this Order, will be constructed, completed, equipped, operated and maintained in accordance with the provisions of LAC 43:XIX.Subpart 1.Chapters 4 and 5, as amended, so as to prevent endangerment to human health and the environment, both surface and subsurface, including underground sources of drinking water (USDW) as defined in LAC 43:XIX:403.B.

13) That, pursuant to Finding number 12, Premier will submit open hole logs of acceptable quality run on the proposed slurry fracture injection well, as required by LAC 43:XIX.433.H.1, to demonstrate that the near well bore geology conforms to the confining and containment zone criteria of LAC 43:XIX.433.E. Additionally, Premier will construct, complete, equip, operate, and maintain the slurry fracture injection well to ensure compliance with the acoustic logging and vertical seismic profiling requirements of LAC 43:XIX.433.H.2.

14) That, based on finding numbers 12 and 13 above, exceptions to the AOR slurry fracture injection well sitting criteria of LAC 43:XIX.433.G.1 and Confining Zone AOR minimum thickness criteria of LAC 43:XIX.433.E.1, referenced in Finding number 11 herein, were reasonable and acceptable pursuant to the provision of LAC 43:XIX.431.A.

15) That, on January 4, 2005, a public hearing was conducted in Davant, Louisiana after public notice had been given by the Office of Conservation in the Louisiana Register on November 20, 2004, and in The Advocate, on November 30, 2004, and by Premier in the Plaquemines Gazette, on November 19 and 26 and December 3, 2004, all in accordance with the provisions of LRS 30:4(I) and LAC 43:XIX.Subpart 1.Chapter 5.

16) That the facility is to be located in Section 001, Township 17 South, Range 15 East, in Bohemia, Plaquemines Parish, Louisiana.

17) That the facility's identification number shall be Site Code 3815.

18) That the facility, as proposed and approved, will consist of a truck offloading area for receipt of E&P Waste solids, a truck offloading area for receipt of E&P Waste liquids, a series of grinder pumps and shale shakers for waste processing, a wash rack, storage tanks for E&P Waste and a Class II slurry fracture injection disposal well.

19) That the proposed waste disposal system will be a "Type A" facility which will receive, temporarily store, process and dispose of E&P Waste (except Waste Type 50, Salvageable Hydrocarbons), as defined under LAC 43:XIX.501, which may contain NORM as approved by the Louisiana Department of Environmental Quality (LDEQ).

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20) That the slurry fracture injection well will be located at Latitude 29° 32' 28.9", Longitude 89° 44' 2.1" and is identified as the S G Haller et al SFI Well No. 001, Serial Number 973303, API No. 17075883060000.

21) That Premier will keep such records and make such reports as are required by LAC 43:XIX.Subpart 1.Chapters 4 and 5, as amended.

22) That Premier will submit and maintain evidence of financial responsibility in the appropriate amount for any liability for damages which may be caused to any party by the escape or discharge of any material or waste from the facility and/or slurry fracture well.

23) That Premier will submit and maintain the appropriate funding in favor of the State of Louisiana providing for the adequate closure of the facility and slurry fracture well.

24) That Premier will obtain appropriate authorization from LDEQ prior to receipt and handling of E&P Waste containing NORM concentrations subject to written approval by LDEQ.

25) That responses to relevant comments received during the comment period following both public hearings held under Docket No. IMD 99 - 03 are presented in Exhibit "A".

26) That the response to the "IT Decision" questions was timely submitted by Premier and filed with the Plaquemines Parish authorities. The Office of Conservation has reviewed the responses and found that the responses were acceptable in support of the application and that the application and "IT Decision" responses indicate that the environment, public health and safety will be protected and that potential impacts, if any, will be minimized in that no E&P Waste will be disposed or discharged at the surface of the site and that the appropriate safeguards, such as surface facility containment areas and an approved disposal well monitoring program, will be in place prior to the operation of the facility.

ORDER

NOW, THEREFORE IT IS ORDERED THAT:

1) The proposal of Premier to permit and operate a commercial E&P Waste slurry fracture injection well disposal facility identified as Site Code 3815 in Section 001, Township 17 South, Range 15 East, Bohemia, Plaquemines Parish, Louisiana, as set forth in the application, be and hereby is approved.

2) The operation of the Class II slurry fracture disposal well associated with the waste disposal facility shall not commence until a separate Permit-to-Inject has been issued by the Office of Conservation.

3) Except as to the extent supplemented by these Findings and Order, the provisions of LAC 43:XIX.Subpart 1.Chapters 4 and 5, as amended by the Office of Conservation, shall apply to the construction and operation of this "Type A" E&P Waste disposal facility.

4) Premier shall not commence construction of the facility until the provisions for adequate closure have been submitted in accordance with the requirements of LAC 43:XIX.513 and 567, as amended.

5) Any modifications to the proposed construction of the facility, and any planned physical and/or operational alterations or additions following completion of facility construction, shall be subject to the provisions of LAC 43:XIX.535.C for written authorization by the Office of Conservation prior to initiating or implementing any such changes.

6) In accordance with LAC 43:XIX.535.D, Premier must notify the Commissioner when construction is complete and shall not commence receiving or disposing E&P Waste until the facility has been inspected for compliance with the conditions of the permit and the financial responsibility requirements of LAC 43:XIX.511 for sudden and accidental pollution liability coverage have been met.

7) The issuance of this permit does not convey, grant or establish any property rights to any movable or immovable property of any sort, or any exclusive privileges of servitude to or on behalf of Premier. This permit further does not authorize any injury to private or public property, or

any invasion of personal rights, or any infringement or suspension of Federal, State or local laws or regulations.

8) That receipt of E&P Waste containing NORM concentrations subject to LDEQ license approval shall be prohibited until such time that a valid license has been issued by LDEQ to Premier and a copy of such license has been submitted to the Office of Conservation.

9) Findings of Fact Numbers 11, 12, 13,14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 and 26 are hereby approved and are expressly ordered.

10) The responses to comments for Docket No. IMD 99 - 03 (Exhibit "A") are hereby incorporated herein.

11) This Order shall be effective on and after April 18, 2005.

OFFICE OF CONSERVATION
STATE OF LOUISIANA

[redacted]

James H. Welsh
Commissioner of Conservation

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EXHIBIT "A"

RESPONSE TO COMMENTS

Received During Hearings and Public Comment Periods
For

PREMIER ENVIRONMENTAL, LLC
PLAQUEMINES PARISH
DOCKET No. IMD 99 – 03

Introduction:

Premier Environmental, LLC of Mandeville, Louisiana submitted an application for approval to construct and operate a commercial exploration and production waste (E&P Waste) slurry fracture injection well facility located in Section 001, Township 17 South, Range 15 East, Bohemia, Plaquemines Parish, Louisiana. Said application was scheduled for public hearing on January 4, 2005 at the Davant Community Center located at 15535 Highway 15, Davant, Louisiana. The public hearing was held as scheduled. At the hearing, the public was given opportunity to submit oral or written comments concerning the application. The public comment period was open until 4:30 p.m. January 11, 2005 to receive additional comments after the hearing.

Having received written comments during the public comment period and after reviewing the transcript of the public hearing, the Commissioner's responses to those relevant comments received are provided hereafter.

1) What are the Office of Conservation public notification requirements for commercial E&P Waste facility permit applications and public hearings for the same?

A commercial E&P Waste facility permit applicant is required to publish a Notice of Intent to file an application for a permit as specified in LAC 43:XIX.519.B. State Exhibit No. 1 under Docket No. IMD 99 – 03 contains proof of publication of the Premier Notice of Intent for the facility permit application in accordance with LAC 43:XIX.519.B. Legal notices of public hearings for commercial E&P Waste facility permit applications are required to be published by the permit applicant and the Office of Conservation in accordance with the provisions of LAC 43:XIX.529. State Exhibit No. 13 under Docket No. IMD 99 – 03 includes proof of publication of legal notices by Premier and the Office of Conservation for public hearings held on March 23, 1999 and January 4, 2005 as required by LAC 43:XIX.529.

2) *The permit application submitted by Premier and presented as State Exhibit No. 1 at the March 23, 1999 public hearing contains sections of information requiring further clarification. The permit application should be corrected, redistributed to the public and another public hearing should be held.*

After further review of the application following the March 23, 1999 public hearing, the Office of Conservation determined that promulgation of regulations for disposal of E&P Waste by means of slurry fracture injection technology was necessary. In a letter dated December 28, 1999, the Office of Conservation notified Premier that the application would be considered after promulgation of regulations governing slurry fracture injection technology. On November 20, 2001, the Office of Conservation promulgated regulations under LAC 43:XIX.Subpart 1.Chapter 4 for disposal of E&P Waste by means of slurry fracture injection and amended regulations under LAC 43:XIX.Subpart 1.Chapter 5 for the off-site storage, treatment and/or disposal of E&P Waste generated from drilling and production of oil and gas wells. Premier submitted a revised application pursuant to the new and amended requirements of LAC 43:XIX.Subpart 1.Chapters 4 and 5. On November 8, 2004, the Office of Conservation deemed the revised application complete. In accordance with LAC 43:XIX.527.E, the revised application was made available for public review. The Office of Conservation then conducted a public hearing on January 4, 2005 in Davant, Louisiana for comment on the revised Premier application.

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3) What type of waste will Premier receive, store, process and dispose at the proposed facility?

Premier proposes to receive, store, process and dispose of E&P Waste, as defined in LAC 43:XIX.501, which may also contain naturally occurring radioactive material (NORM) as approved by the Louisiana Department of Environmental Quality (LDEQ). Refer to Conservation Order No. IMD 2005-01 CFA, Finding of Fact Item No. 19.

4) How does Louisiana regulate commercial disposal of E&P Waste by means of Class II well slurry fracture injection?

The Office of Conservation regulates commercial disposal of E&P Waste by means of slurry fracture injection in a Class II well under LAC 43:XIX.Subpart 1.Chapters 4 and 5. LAC 43:XIX.Subpart 1.Chapter 5 includes requirements for the off-site storage, treatment and/or disposal of E&P Waste generated from drilling and production of oil and gas wells. The regulations under LAC 43:XIX.547.A.2 allow for commercial disposal of E&P Waste by means of a Class II slurry fracture injection well. As previously mentioned, regulations for the permitting, operation and monitoring of Class II slurry fracture injection well technology were promulgated under LAC 43:XIX.Subpart 1.Chapter 4, specifically under LAC 43:XIX.433.

5) How will NORM be regulated at the proposed facility?

The Louisiana Department of Environmental Quality (LDEQ) has the jurisdictional authority to regulate NORM under the provisions of LAC 33:XV.Chapter 14. In accordance with LAC 43:XIX.519.C.16, the Premier commercial E&P Waste facility permit application presented as State Exhibit No. 10 under Docket No. IMD 99 – 03 includes reference to the NORM specific license application on file with LDEQ. Conservation Order No. IMD 2005 – 01 CFA, Order Item No. 8 allows receipt of E&P Waste shipments containing NORM concentrations requiring a license by LDEQ only after a license from LDEQ has been issued to Premier, and is maintained by Premier, unless LDEQ at any time prohibits the receipt or handling of NORM at the facility for any reason.

6) Have there been any Class II slurry fracture injection well operations, similar to the proposed Premier facility, conducted in Louisiana for disposal of E&P Waste containing NORM?

The Office of Conservation approved a pilot Class II noncommercial slurry fracture injection well project in Fourchon, Louisiana for the disposal of production pit waste with elevated concentrations of NORM. The operation lasted more than a year and disposed of more than two million barrels of waste.

7) Were there any reported environmental impacts resulting from operations of the aforementioned Class II slurry fracture injection well pilot project activities?

There were no reported adverse surface or subsurface environmental impacts resulting from the project.

8) Does the Premier permit application address protection of groundwater and surface water systems located in the immediate area of the proposed Premier facility, disposal well and subsurface injection disposal zone?

LAC 43:XIX.509 includes requirements for the design and construction of E&P Waste facilities to prevent the movement of E&P Waste into soil, groundwater aquifers, or underground sources of drinking water (USDW) and to prevent the unpermitted discharge of E&P Waste materials or E&P Waste byproducts. These provisions also require that commercial E&P Waste facilities be

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designed and constructed in a manner which is protective of public health, safety and welfare and the environment, surface waters, groundwater aquifers and USDW. Accordingly, the Premier application includes adequate retaining walls around all above-ground storage tanks to provide sufficient capacity to retain the contents of each storage tank and contains provisions for spill containment at unloading areas to prevent the escape of any E&P Wastes spillage during waste offloading activity. As required under LAC 43:XIX.433, the Premier application also demonstrates that the proposed location of the disposal well and subsurface disposal zone is in a geological environment which is protective of the USDW by having adequate confining and containment zones. Premier further indicates in its application that the disposal well will be constructed and operated in accordance with applicable design and monitoring requirements of LAC 43:XIX.433 for protection of the USDW.

As required in LAC 43:XIX.519.C.11, Premier's application contained an E&P Waste Management and Operations Plan (WMOP) which contains a spill contingency plan and monitoring equipment inspection and maintenance plan in accordance with LAC 43:XIX.515.F.2 and 3.

9) Does Premier Environmental, L.L.C. intend to discharge any fluids to the surrounding environment from the proposed facility receiving, offloading, storage, processing or disposal areas?

Premier indicated that there will be no discharge of any pollutant into the waters of the State of Louisiana from the facility, as noted in the Affidavit of No Discharge included in their application in accordance with LAC 43:XIX.519.C.15. On page 184 of State Exhibit No. 10 under Docket No. IMD 99 - 03, Premier further indicates that rainwater that falls within the facility containment areas will be collected and stored prior to injection into the well.

10) Does Premier Environmental, L.L.C. have plans to address hurricane and flood events at the proposed facility?

As required in the permit application requirements of LAC 43:XIX.519.C.7 and 507.A.5, Premier has demonstrated that containment levees surrounding permanent E&P Waste storage tanks will be constructed to a height of at least one foot above the 100-year flood elevation, as certified by a professional engineer or surveyor, and will be able to withstand the velocity of the 100-year flood. On page 253 of State Exhibit No. 10 under Docket No. IMD 99 - 03, Premier expressed their intentions to maintain written contingency plans for hurricanes and a trained staff for implementing such plans. Furthermore, on page 242 of State Exhibit No. 10 under Docket No. IMD 99 - 03, Premier indicates that in the event of a flood or impending high water, all waste materials will be injected or secured in tanks.

11) Will the proposed facility operate an earthen pit for waste storage?

No. Premier does not propose to operate an earthen pit for the storage of E&P Waste. LAC 43:XIX.509.D prohibits the construction or use of earthen (or artificially lined) pits for the storage of E&P Waste at any commercial E&P Waste facility.

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